

New and little known Phisidini from Madagascar, Comoros and Seychelles (Orthoptera, Ensifera, Meconematinae)

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ABSTRACT

Recent fieldworks on Comoros, Seychelles and Madagascar have allowed to update the knowledge on Phisidini Jin, 1987 species from these islands and to uncover this tribe on Comoros and Madagascar where it was up to now considered as lacking (Jin & Kevan 1992). In the present article, the new genus *Seselphysis* n. gen. is proposed for the new species *S. praslinensis* n. gen., n. sp. from Seychelles; *Brachyphysis visenda* (Bolivar, 1912) is transferred to this genus. Two new genera are described from Comoros: *Comorophysis* n. gen. to include *C. labati* n. gen., n. sp. from Grande Comore and *C. mayottensis* n. gen., n. sp. from Mayotte; *Comorocolya* n. gen. to include *C. ngazidja* n. gen., n. sp. from Grande Comore, *C. ndzuwaniensis* n. gen., n. sp. from Anjouan and *C. mwaliensis* n. gen., n. sp. from Mohéli. *Malagasyphysis maromizaha* n. gen., n. sp. is described from Madagascar. The song of *Seselphysis visenda* n. comb., *Seselphysis praslinensis* n. gen., n. sp., *Comorophysis labati* n. gen., n. sp., *Comorophysis mayottensis* n. gen., n. sp., *Comorocolya ngazidja* n. gen., n. sp. and *Comorocolya mwaliensis* n. gen., n. sp. are described. Now, 15 Phisidini species are known on South Western Indian Ocean (SWIO) islands: one is widespread, the others are endemic to one island or few islands. Endemic SWIO Phisidini species are belonging to archipelago endemic genera. Keys to SWIO Phisidini genera and to Phisidini from Comoros are given.

KEY WORDS

Orthoptera,
Phisidini,
Meconematinae,
Madagascar,
Comoros,
Seychelles,
endemism,
new genera,
new combination,
new species.

RÉSUMÉ

Phisidini nouveaux et peu connus originaires de Madagascar, des Comores et des Seychelles (Orthoptera, Ensifera, Meconematinae).

Des missions récentes aux Comores, aux Seychelles et à Madagascar ont permis de mettre à jour les connaissances relatives aux Phisidini Jin, 1987 de ces îles et de découvrir cette tribu aux Comores et à Madagascar, où elle était considérée absente (Jin & Kevan 1992). Dans le présent article, le nouveau genre *Seselphysis* n. gen. est proposé pour l'espèce nouvelle *S. praslinensis* n. gen., n. sp. des Seychelles; *Brachyphysis visenda* (Bolivar, 1912) est transféré dans ce nouveau genre. Deux nouveaux genres sont décrits des Comores : *Comorophysis* n. gen. pour inclure *C. labati* n. gen., n. sp. de Grande Comore et *C. mayottensis* n. gen., n. sp. de

MOTS CLÉS

Orthoptera,
Phisidini,
Meconematinae,
Madagascar,
Comores,
Seychelles,
endémisme,
genres nouveaux,
combinaison nouvelle,
espèces nouvelles.

Mayotte; *Comorocolya* n. gen. pour inclure *C. ngazidja* n. gen., n. sp. de Grande Comore, *C. ndzuwaniensis* n. gen., n. sp. d'Anjouan et *C. mwaliensis* n. gen., n. sp. de Mohéli. *Malagasyphis maromizaha* n. gen., n. sp. est décrit de Madagascar. Les stridulations de *Seselphsis visenda* n. comb., *Seselphsis praslinensis* n. gen., n. sp., *Comorophis labati* n. gen., n. sp., *Comorophis mayottensis* n. gen., n. sp., *Comorocolya ngazidja* n. gen., n. sp. et *Comorocolya mwaliensis* n. gen., n. sp. sont décrites. À présent, 15 espèces de Phisidini sont connues des îles du sud-ouest de l'océan Indien : l'une est à large répartition, les autres sont endémiques d'une ou de quelques îles. Les Phisidini endémiques de ces îles appartiennent à des genres endémiques de chaque archipel. Une clé des genres de Phisidini des îles du sud-ouest de l'océan Indien et des espèces des Comores est proposée.

INTRODUCTION

Until now, among South Western Indian Ocean (SWIO) islands, only Mascarene and Seychelles were known displaying Phisidini Jin, 1987 species. In a previous article, Phisidini species from Mascarene islands were examined (Hugel 2010b). All the species of this archipelago are single island endemics belonging to Mascarene endemic genera. On Seychelles, two species were recorded: *Brachyphis visenda* (Bolivar, 1912), endemic to the archipelago, and *Phisidini peregrina* Karny, 1926, a very widespread species.

Recent fieldwork on Comoros, Seychelles and Madagascar have allowed to update the knowledge on Phisidini species from these islands and to uncover this tribe on Comoros and Madagascar where it was up to now considered as lacking (Jin & Kevan 1992).

In the present article, the new genus *Seselphsis* n. gen. is proposed for Seychelles endemic Phisidini species: *Brachyphis visenda* from Mahé and Silhouette is transferred to this genus; *S. praslinensis* n. gen., n. sp. is described from Praslin.

Two new genera are described from Comoros archipelago: *Comorophis* n. gen. to include *C. labati* n. gen., n. sp. from Grande Comore and *C. mayottensis* n. gen., n. sp. from Mayotte; *Comorocolya* n. gen. to include *C. ngazidja* n. gen., n. sp. from Grande Comore, *C. ndzuwaniensis* n. gen., n. sp. from Anjouan and *C. mwaliensis* n. gen., n. sp. from Mohéli.

Thus, two Phisidini species occur in Grande Comore whereas the other islands of the archipelago are currently known to harbor one single Phisidini species.

Malagasyphis maromizaha n. gen., n. sp. is described from Madagascar.

The song of *Seselphsis visenda* n. comb., *Seselphsis praslinensis* n. gen., n. sp., *Comorophis labati* n. gen., n. sp., *Comorophis mayottensis* n. gen., n. sp., *Comorocolya ngazidja* n. gen., n. sp. and *Comorocolya mwaliensis* n. gen., n. sp., are described.

Now, fifteen Phisidini species are known on SWIO: one of which is widespread, the others are endemic to one island or few islands. Endemic SWIO Phisidini species are belonging to archipelago endemic genera. Interestingly, *Xiphidiopsis lita* Hebard, 1922, very widespread on granitic Seychelles and Mascarene islands (Hugel 2010a) seems still absent from Comoros and Madagascar.

The puzzling affinities of SWIO Phisidini and Hexacentrinae Karny, 1925 with the Oriental species will be discussed elsewhere (Warren, Strassburg & Hugel in prep.).

MATERIAL AND METHODS

SPECIMENS EXAMINED

New taxa are described from specimens recently collected in Comoros, Seychelles and Madagascar. Day collecting was performed mechanically in a large plastic sheet while shaking plants. Night collecting was performed by sight using a halogen headlamp and a net. Most of the male specimens were localised while singing, using a bat detector.

GEOGRAPHIC NAMES

In the present article, Comoros is used as a geographic name matter apart from any political consideration.

MORPHOLOGICAL TERMINOLOGY

Morphology follows Jin & Kevan (1992). Movable and articulated outgrowths are called spurs whereas immovable outgrowths are called spines (e.g., Otte & Alexander 1983; Rentz 1985; Jin & Kevan 1992) although other authors use the term spurs only for apical spines, and spines for all other ones. The number of ventral femoral spurs and ventral tibial subapical spurs (apical spurs are not included in this number) is given in the form of a fraction: outer/inner (N.B.: outer = posterior for the foreleg and anterior for the midleg and hindleg).

Male genitalia have been dissected in softened specimens by cutting the membranes between the paraprocts and the SGP; they have been observed after cleaning with cold KOH and kept in glycerine vials pinned under studied specimens.

ABBREVIATIONS

Morphology

F1	fore femora;
F2	mid femora;
F3	hind femora;
FW	forewing;
HW	hindwing;
O	ovipositor;
Pro	pronotum;
SGP	subgenital plate;
T1	fore tibia;
T2	mid tibia;
T3	hind tibia.

Material repository

BMNH	The Natural History Museum, London (formerly British Museum of Natural History);
IRSN	Institut royal des Sciences naturelles, Bruxelles;
MNHN	Muséum national d'Histoire naturelle, Paris;
coll. SH	collection Sylvain Hugel, Strasbourg.

MNHN-ENSIFxxxx corresponds to the inventory number of MNHN ensifera. The codes under parentheses (e.g., 2010 SEY SH 013) corresponds to the specimen number from my field pad, this number is on the first label pinned with the specimen.

MEASUREMENTS

Measurements have been performed on dry specimens and are given with one significant decimal figure. L: length; W: width; H: height (of Pro lateral lobe); all in mm. Head W, Pro W, T3 W corresponding to maximal width. O W: width on the middle.

SCAN ELECTRON MICROSCOPY

The scan electron microscope used was either a JEOL JSM-6360 in low vacuum mode, with an acceleration of 18 MeV, or a Philips XL-30 ESEM with an acceleration of 20 MeV. Specimens were directly imaged, without metallisation.

SONG RECORDINGS AND ANALYSIS

Recordings have either been performed in the field or in studio with an Audiotechnica AT822 stereo microphone (*Seselphysis* n. gen.), or a Petterson D230 ultrasound detector (*Comorophysis* n. gen., *Comorocolya* n. gen.), on a HDR HC1E Sony camcorder (sampling rate: 48 kHz) on the nightshot mode (to follow the insect behaviour). Song analysis has been performed with Clampfit 10.2 software. Song recordings are deposited in both coll. SH and MNHN acoustic databases.

Acoustic terminology

Acoustic terminology is adapted from Ragge & Reynolds (1998): a syllable is the sound supposedly produced by one to-and-fro movement of the stridulatory apparatus; syllables are made of trains of waves. Trains of waves are transient train of sound waves supposedly generated by the impact of one tooth of the stridulatory file, or the fusion of sound waves generated by several of such impacts. The first harmonic (fundamental) is the only carrier frequency given in the text; the recording device used in the field usually does not allow defining whether it corresponds to the dominant frequency.

LIST OF THE TAXA STUDIED HEREIN

Tribe Phisidini Jin, 1987

Genus *Phisis* Stål, 1861

Phisis peregrina Karny, 1926 [Seychelles, Maluku, Philippines, Indonesia, New Guinea, etc.]

Genus *Seselphysis* n. gen.

Seselphysis visenda (Bolivar, 1912) n. comb. [Seychelles: Mahé, Silhouette]

Seselphysis prasinensis n. gen., n. sp. [Seychelles: Praslin, possibly La Digue]

Genus *Comorocolya* n. gen.

Comorocolya ngazidja n. gen., n. sp. [Comoros: Grande Comore]

Comorocolya mwaliensis n. gen., n. sp. [Comoros: Mohéli]

Comorocolya ndzuwaniensis n. gen., n. sp. [Comoros: Anjouan]

Genus *Comorophysis* n. gen.

Comorophysis labati n. gen., n. sp. [Comoros: Grande Comore]

Comorophysis mayottensis n. gen., n. sp. [Comoros: Mayotte]

Genus *Malagasyphysis* n. gen.

Malagasyphysis maromizaha n. gen., n. sp. [Madagascar]

SYSTEMATICS

Family TETTIGONIIDAE Krauss, 1902

Tribe PHISIDINI Jin, 1987

Genus *Phisis* Stål, 1861

Phisis peregrina Karny, 1926

Phisis peregrina Karny, 1926: 190.

DISTRIBUTION. — Cocos Keeling, Indonesia, Malaysia, New Guinea, Philippines, etc.

REMARKS

One female specimen (examined) possibly belonging to this species has been collected in Seychelles (Jin & Kevan 1992). Males would be required to confirm this identification. Nevertheless, it is absolutely clear that this female specimen does not belong to the known endemic Phisidini from Seychelles. *Phisis peregrina* is a very widespread species, occurring from southwestern Pacific to Indian Ocean. Other Ensifera species very widespread on Pacific and Indian Ocean islands are occurring on SWIO islands, such as *Myrmecophilus americanus* Saussure, 1877 (Wetterer & Hugel 2008) and *Xiphidiopsis lita* Hebard, 1922 (Hugel 2010a).

Genus *Seselphysis* n. gen.

(Figs 1-4; Tables 1, 2)

TYPE SPECIES. — *Phisis visenda* Bolivar, 1912, by present designation.

DISTRIBUTION. — Indian Ocean, granitic Seychelles.

ETYMOLOGY. — After the Creole name of the Seychelles where the genus occurs.

DIAGNOSIS. — Slender; wings exceeding the hind knees; front coxal process present; mid trochanteral process present; mid dorsal apical spur absent (seldom present in *S. visenda* n. comb. according to Jin & Kevan 1992, but I have not seen specimens displaying such process); dorsal subbasal process on T2 absent; Pro with deep lateral lobes; prosternum with distinct processes; male epiproct reduced, not specialised; male cerci specialised, with a long process; male paraprocts reduced, not specialised; epiphallus with deeply bifurcated cephalic lobe (Fig. 1); female SGP without notch or emargination.

DESCRIPTION

Size moderate to large for the tribe (13.5-21.0). Slender.

Thorax

Pro disc weakly arched with a distinct prosulcus; anterior margin concave, posterior margin weakly concave; lateral lobes deep with a distinct rim. Prosternal processes relatively long and sharp; mesosternal processes short, wide and rounded; metasternal processes indistinct, forming a small bulge. Thoracic auditory opening large.

Wings

FW and HW distinctly exceeding the hindknee.

Legs

Slender. Front coxal spine present. F1 spurs 5/5. T1 subapical spurs 7/7. Tympanal area of T1 weakly inflated. Mid trochanter armed with a small spine. F2 ventrally with 4-6/1 (rarely 2) spurs; ventral posterior margin with numerous spinules. T1 subapical spurs 6/6; dorsal subbasal spur absent, dorsal apical spur absent (rarely present in *S. visenda* n. comb. according to Jin & Kevan 1992). F3 with two ventral carinae distinct distally, each bearing small spines (7-12/1-9). T3 with 11-14/6-10 ventral spines; with 19-25/18-21 dorsal spines.

Male

Male epiproct reduced, semicircular (Fig. 1A, E). Paraprocts not visible from above, not exceeding the epiproct, simple, without process (Fig. 1A, E).

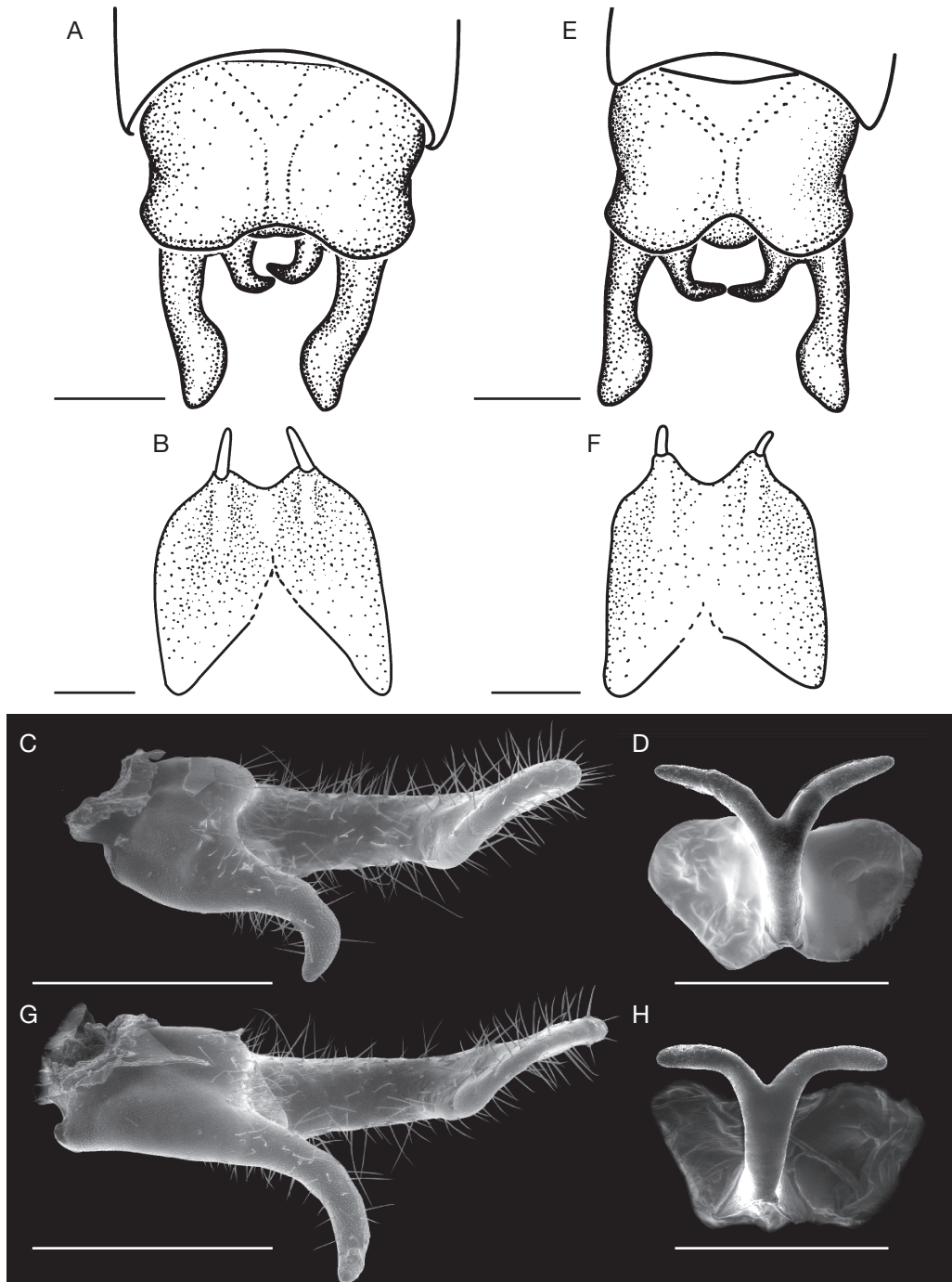


FIG. 1. — *Seselphysis* n. gen.: **A-D**, *S. visenda* (Bolivar, 1912) n. comb., specimen (coll. SH; 2010 SEY SH 039); **E-H**, *S. praslinensis* n. gen., n. sp., holotype (MNHN-ENSIF2972); **A**, **E**, male last tergites and cerci in dorsal view; **B**, **F**, male subgenital plate in ventral view; **C**, **G**, SEM pictures of male right cercus, inner view; **D**, **H**, SEM pictures of epiphallus in dorsal view. Scale bars: 1 mm.

TABLE 1. — *Seselphisis visenda* (Bolivar. 1912) n. comb. Number of specimens measured : 7 ♂♂, 4 ♀♀. Abbreviations: see Material and methods.

	Body	Head		Pro			Tibia			Femora				FW	O	
	L	L	W	L	W	H	1	2	3	1	2	3 L	3 W	L	L	W
♂ Average	20.1	2.0	3.0	4.6	3.4	2.5	11.8	9.5	20.1	10.0	8.1	17.9	2.4	22.7	–	–
Min	15.0	1.9	2.9	4.5	3.1	2.3	11.7	9.4	19.4	9.5	7.6	16.0	2.2	21.0	–	–
Max	20.9	2.2	3.1	4.9	3.6	2.7	12.1	9.5	21.0	10.4	8.8	18.5	2.5	25.5	–	–
♀ Average	18.4	1.8	2.9	4.9	3.6	2.7	11.5	9.5	21.5	10.4	7.7	18.6	2.3	24.5	12.1	1.4
Min	15.0	1.8	2.7	4.7	3.2	2.4	11.3	9.4	21.0	10.1	7.6	17.5	2.2	24.0	11.0	1.4
Max	22.0	1.8	3.1	5.5	3.9	2.9	11.6	9.7	21.9	10.8	7.9	20.0	2.3	28.0	13.3	1.4

Cerci stout, dorsoventrally flattened distally, with a distinct median process on the basis (Fig. 1A, C, E, G). SGP with a distinct emargination, styli distinct (Fig. 1B, F). Epiphallus with deeply bifurcated cephalic lobe, without tubercles (Fig. 1D, H). Phallus with denticle-bearing sclerified plates on dorsal phallomeres.

Female

SGP not notched (Fig. 3B, D). O gradually curved upwards with serrated margins apically (Fig. 3A, C).

Colour

Colour green with yellow (outer) and red (inner) lateral stripes on Pro, followed in males by yellow and red lines on FW posterior margin; with a red spot surrounded by yellow anterior to file vein.

REMARKS

As most of the macropterous Phisidini species described prior to Jin & Kevan masterwork (1992), *Seselphisis visenda* n. comb. was described under the genus *Phisis* Stål, 1861. In their monography, Jin & Kevan (1992) redefined *Phisis* genus and accordingly proposed to remove *Phisis visenda* from it. Jin & Kevan (1992) transferred this species to *Brachyphisis* Chopard, 1957, a monospecific genus erected for *B. viettei* Chopard, 1957, known by a single female from La Réunion. This conservative choice was fully justified by similar non genital characters of both species. The recently described (Hugel 2010b) male characters of *B. viettei* clearly indicates that *P. visenda* is not directly related to *Brachyphisis* type species. I therefore propose the new genus *Seselphisis* n. gen. to include the species

S. visenda n. comb., and *S. praslinensis* n.gen., n. sp., a new species from Seychelles.

Seselphisis n. gen. shares with *Phisis* the prosternum with long processes, the presence of a front coxal process, the wings well developed. *Seselphisis* n. gen. differs from *Phisis* by the mid trochanteral spine (absent in *Phisis*), the lack of dorsal apical spur on T2 (present in *Phisis*), the male epiproct reduced and not specialised (Fig. 1; rectangular and widened in *Phisis*), the male cerci specialised, bearing a process (cylindrical and without process in *Phisis*), the male paraprocts reduced (extended and specialised in *Phisis*), the male epiphallus with deeply bifurcated cephalic lobe (Fig. 1; wishbone like and usually laterally flattened in *Phisis*).

Seselphisis n. gen. shares with *Brachyphisis* the front coxal process present, the mid trochanteral process present, the mid dorsal apical spur absent, the male epiproct reduced and not specialised, the male cerci not cylindric. *Seselphisis* n. gen. differs from *Brachyphisis* by the lack of dorsal subbasal spur on T2 (present in *Brachyphisis*); the male cerci with a long process (no process in *Brachyphisis*); the male epiphallus T- or Y-shaped (with a single cephalic lobe in *Brachyphisis*); the female SGP without emargination (with a distinct notch in *Brachyphisis*).

The two known species of *Seselphisis* n. gen. are often seen on palm leaves. I observed a similar apparent preference for palm leaves for *Rodriguesiophisis* Hugel, 2010 (Hugel 2010b) from Rodrigues. Other striking examples of plant/ensifera associations are documented on Mascarene islands: Grylloidea Lai-charting, 1781 (Hugel 2009a) and Gryllacrididae Blanchard, 1945 (Hugel *et al.* 2010; Micheneau *et al.* 2010).

Seselphysis visenda (Bolivar, 1912) n. comb.
(Figs 1A-D; 2A-C; 3A, B; 4A, B; Table 1)

Phisis visenda Bolivar, 1912: 277 (original description)

Brachyphysis visenda – Jin & Kevan 1992: 30 (redescription).

MATERIAL EXAMINED. — Lectotype (designated by Jin & Kevan 1992): ♀ (examined), Mahé, '08-9, Seychelles exp. 66, Cascade Estate, about 240 m; Seychelles Islands, Percy Sladen trust, expedition, 1913-170; *Phisis visenda* sp. nov.; Type [handwritten]; BMNH.

Paralectotype ("lectoallotype" designated by Jin & Kevan 1992): ♂ (examined), 114 Mahé '08-9 114, Seychelles exp., Morne Seychellois, Seychelles Islands, Percy Sladen trust, expedition, 1913-170, *Phisis visenda* Bolívar, paratype [handwritten]; BMNH.

OTHER SPECIMENS EXAMINED. — **Seychelles archipelago.** Coll. R. I. Sc. N. B., Seychelles, I. Mahé Riv. Gd. St. Louis (Niol), IX-X.1976 (Stat. 6,13,17,22), G. Marlier, 1 ♂, *Brachyphysis visenda* (Bolivar), det. X. B. Jin & D. K. Kevan 1990 (IRSN). — Silhouette [Island], La Passe, 20 m alt., 4°28'58"S, 55°14'43"E, sur palmier 05.VIII.2010, S. Hugel, 1 ♂ (coll. SH; 2010 SEY SH 212). — Silhouette [Island], Jardin Marron, 05.VIII.2010, S. Hugel, 1 ♂ (MNHN-ENSIF2974; 2010 SEY SH 213). — Silhouette [Island], entre Jardin Marron et mont Pot à Eau, 445 m alt., 4°29'14"S, 55°14'05"E, 05.VIII.2010, S. Hugel, 1 ♀ (MNHN-ENSIF2973; 2010 SEY SH 175). — Silhouette [Island], mont Pot à Eau, 05.VIII.2010, S. Hugel, 1 ♂ (coll. SH; 2010 SEY SH 214), 1 ♀ (coll. SH; 2010 SEY SH 215). — Mahé [Island], Morne Blanc, prox. route, 320 m alt., 4°39'S, 55°25'E, en vol, 18.VII.2010, S. Hugel, 1 ♂ (coll. SH; 2010 SEY SH 039). — Mahé [Island], Morne Blanc, haut, 660 m alt., 4°39'37"S, 55°25'54"E, sur palmier 18.VII.2010, S. Hugel, 1 ♀ (coll. SH; 2010 SEY SH 038).

TYPE LOCALITY. — Indian Ocean, Seychelles Islands, Mahé.

DISTRIBUTION. — Seychelles: Mahé and Silhouette islands. This species occurs in and around native forest areas from the lowlands (20 m) to summits (at least 660 m) in Mahé and Silhouette (Matyot 1998). One juvenile female collected in La Digue (Jin & Kevan 1992) might more likely belong to *S. prasinensis* n. gen., n. sp.

DIAGNOSIS. — This species is close to *S. prasinensis* n. gen., n. sp., but both species differ by the male terminalia (Fig. 1). All males examined ($n = 7$, from distinct localities) are clearly distinguished from all *S. prasinensis* n. gen., n. sp. males ($n = 4$, from two localities) by the following stable characters: basal process of cerci short and stout (posterior view), SGP with long styli (i.e. the styli can be

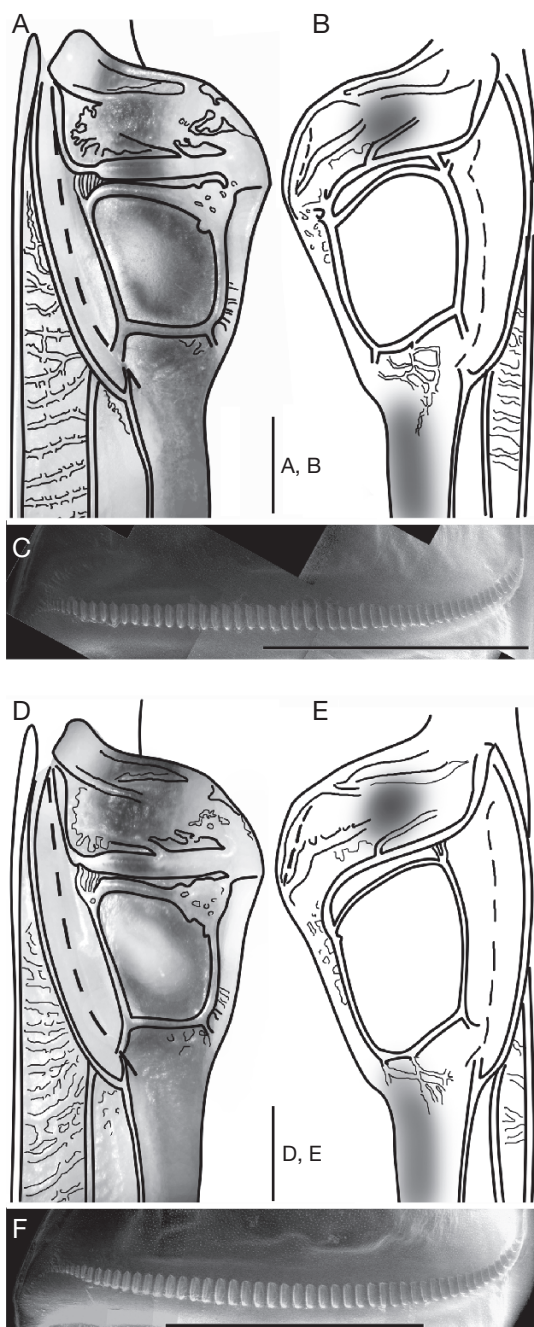


FIG. 2. — *Seselphysis* n. gen.: **A-C**, *S. visenda* (Bolivar, 1912) n. comb., specimen (coll. SH; 2010 SEY SH 039); **D-F**, *S. prasinensis* n. gen., n. sp., holotype (MNHN-ENSIF2972); **A**, **D**, male left forewing basis; **B**, **E**, male right forewing basis; **C**, **F**, SEM pictures of stridulatory files. Scale bars: 1 mm.

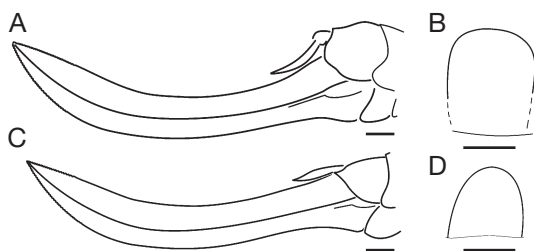


FIG. 3. — *Seselphysis* n. gen.: **A, B**, *S. visenda* (Bolivar, 1912) n. comb., specimen (coll. SH; 2010 SEY SH 038); **C, D**, *S. praslinensis* n. gen., n. sp., specimen (coll. SH; 2010 SEY SH 061); **A, C**, right side view of ovipositor; **B, D**, female subgenital plate. Scale bars: 1 mm.

physically in contact [Fig. 1B, compare with Fig. 1F]), SGP with a shallow emargination (less deep than styli length), bifurcated branches of epiphallus long and slender (Fig. 1D), with pointing apices (branches shorter, more stout, with rounded apices in *S. praslinensis* n. gen., n. sp.). Apparently, females do not display diagnostic characters.

DESCRIPTION

See Jin & Kevan 1992: 30. Complement, in addition to generic characters.

Male

Wings (Fig. 2A-C): left FW with 49-53 (average: 51) lamellar teeth (Fig. 2C). Terminalia: median process of cerci short and thick (posterior or inner lateral views; Fig. 1A, C). SGP: with a relatively shallow emargination (c. 0.3 mm; deeper than styli length; Fig. 1B); with long styli (≥ 0.4 mm, i.e. styli can physically be in contact; Fig. 1B). Epiphallus slender, with long bifurcated branches pointing distally (Fig. 1D).

Measurements

See Table 1.

BIOLOGY. — I observed all the specimens during late night hours, usually resting on large palm leaves. In captivity, this species accepts small moths and trigonidiine crickets.

BIOACOUSTICS (FIG. 4A, B)

Males sing by night hours, often on palm trees. Males are sometimes moving while calling. At 27°C, the call of *S. visenda* n. comb. consists of long irregular echeme-sequences; echeme-sequences are very variable and the reason for this variability

appears unclear: it can be made of mono-, di- or trisyllabic echemes, or even sometimes consists of trains of echemes.

Echeme-sequences are lasting 4.1-31.2 s (average: 13.5 s) and are separated by 63.4-520.6 s (average: 292.0 s). Echemes are lasting 33.8-94.1 ms (average: 43.9 ms) and are separated (between di-, trisyllabic echemes and trains) by 31.7-100.2 ms (average: 70.5 ms). Pauses between di-, trisyllabic echemes and trains are lasting 153.4-4424.4 ms (average: 580.5 ms). Fundamental peaks between 20-25 kHz.

Seselphysis praslinensis n. sp.

(Figs 1E-H; 2D-F; 3C, D; 4C; Table 2)

HOLOTYPE. — Seychelles [archipelago], Praslin [Island], Parc national, Glacis Noir, 284 m alt., 4°20'26"S, 55°44'34"E, sur palmier, 24.VII.2010, S. Hugel, ♂ (MNHN-ENSIF2972; 2010 SEY SH 092).

ALLOTYPE. — Seychelles [archipelago], Praslin [Island], Parc national, Midland, 180 m alt., 4°19'54"S, 55°44'28"E, sur palmier, ab larva, 24.VII.2010, S. Hugel, ♀ allotype (MNHN-ENSIF2971; 2010 SEY SH 096).

PARATYPES. — Same locality data as allotype, but 22.VII.2010, 1 ♀ (coll. SH; 2010 SEY SH 061); same locality data, but 01.VIII.2010, 1 ♀ (coll. SH; 2010 SEY SH 159). — Same locality data as holotype, 3 ♂♂ (coll. SH; 2010 SEY SH 093-095).

TYPE LOCALITY. — Indian Ocean, Seychelles, Praslin Island.

DISTRIBUTION. — I collected this species on Praslin National Park, in the close vicinity of Vallée de Mai and near the island summit. I also recorded specimens singing in Vallée de Mai, high on palms.

ETYMOLOGY. — Named after the type locality, Praslin Island.

DIAGNOSIS. — This species is close to *S. visenda* n. comb., but both species differ by the male terminalia (Fig. 1). All males of the *seria typica* ($n = 4$, from two distinct localities) are clearly distinguished from all examined *S. visenda* n. comb. males ($n = 7$, from distinct localities) by the following stable characters: basal process of cerci long and slender (posterior view), SGP with short styli (i.e. the styli can not physically be in contact [Fig. 1F, compare with Fig. 1B]), SGP with a deep emargination (deeper as the styli length), bifurcated branches of epiphallus of medium length (Fig. 1H), with rounded apices (branches long, slender, pointing in *S. visenda* n. comb.). Apparently, females do not display diagnostic characters.

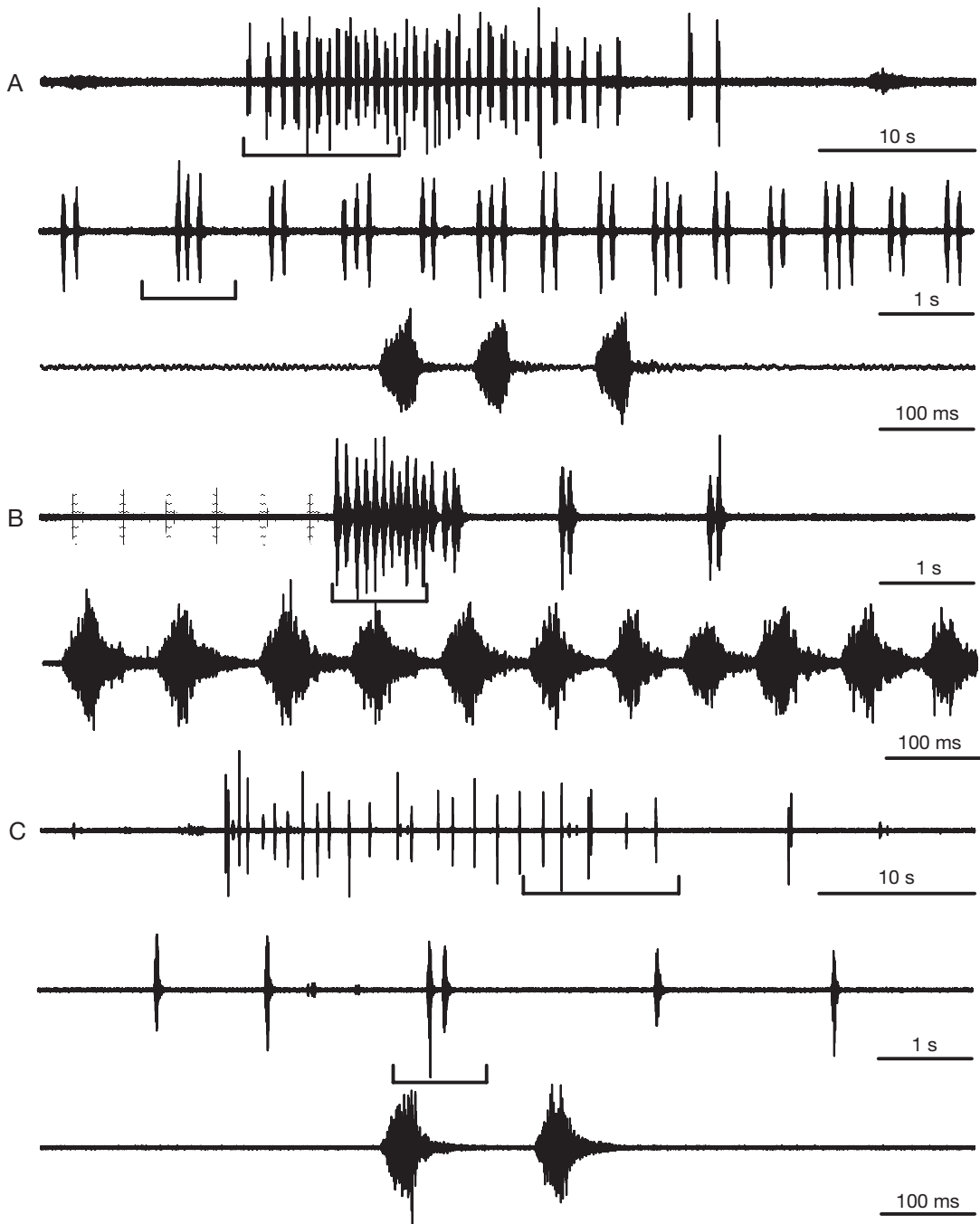


FIG. 4. — *Seselephsis* n. gen. calling song: **A, B**, *S. visenda* (Bolivar, 1912) n. comb.; **C**, *S. prasinensis* n. gen., n. sp.; **A**, specimen (coll. SH; 2010 SEY SH 039), 2h00 AM, 27°C; **B**, specimen (coll. SH; 2010 SEY SH 214), 1h30 AM, 30°C; **C**, holotype (MNHN-ENSIF2972), 2h00 AM, 29°C. In grey: song of another species. All records in studio, with an AT822 microphone.

TABLE 2. — *Seselphesis praslinensis* n. gen., n. sp. Number of specimens measured : 4 ♂♂, 3 ♀♀. Abbreviations: see Material and methods.

	Body			Head			Pro			Tibia			Femora				FW	O	
	L	L	W	L	W	H	1	2	3	1	2	3 L	3 W	L	L	W			
♂ Average	18.3	1.8	2.8	4.6	3.4	2.2	10.3	8.3	18.8	9.7	7.6	16.9	2.3	23.0	–	–			
Min	16.0	1.6	2.7	4.4	3.3	2.1	9.0	7.2	17.4	9.0	7.2	16.2	2.2	21.9	–	–			
Max	20.7	2.1	3.1	4.7	3.6	2.5	11.5	9.2	19.6	10.3	8.5	17.6	2.5	25.2	–	–			
♀ Average	15.5	2.0	3.0	4.7	3.3	2.4	10.7	8.6	20.2	9.8	7.0	17.4	2.0	25.0	11.8	1.4			
Min	13.7	1.8	2.9	4.7	2.9	2.2	10.4	8.6	20.1	9.7	6.3	17.1	1.6	24.0	11.5	1.4			
Max	16.5	2.3	3.1	4.8	3.8	2.7	11.2	8.6	20.3	9.9	7.5	17.6	2.2	26.4	12.1	1.4			

DESCRIPTION

In addition to generic characters.

Legs

Spur formulae: T1 7(very rarely 8)/7; F1 5/5; T2 6/6 (proximal spine minute); F2 4-5 (usually 4)/1-2 (usually 1).

Male

Wings (Fig. 2D-F): left FW with 46-50 (average: 48) lamellar teeth (Fig. 2F). Terminalia: basal process of cerci long and slender (posterior view or inner side view; Fig. 1G). SGP, with a deep emargination (deeper than styli length) (Fig. 1F). Epiphallus bifurcated branches of medium length, with rounded apex (dorsal view; Fig. 1H).

Female

SGP apex tongue-shaped, without emargination (Fig. 3D).

Measurements

See Table 2.

BIOLOGY. — I observed most of the specimens on endemic palm, in palm dominated localities. In captivity, specimens are eating small moths.

BIOACOUSTICS (FIG. 4C)

Males sing by night hours, often on palm trees. Males are sometimes moving while calling. At 27°C, the call of *S. praslinensis* n. gen., n. sp. consists of long irregular echeme-sequences; in the recorded specimens, echeme-sequences were made of mono- or disyllabic echemes. Echeme-sequences are lasting 14.1-79.1 s (average: 45.8 s) and are separated by long pauses (> 1 min). Echemes are lasting 46.3-

103.0 ms (average: 77.4 ms) and are separated (between disyllabic echemes) by 48.1-109.9 ms (average: 84.9 ms); within echeme-sequences, pauses between mono- or disyllabic echemes are lasting 223.1-6147.3 ms (average: 1632.0 ms). Fundamental peaks at 22.5 kHz.

Genus *Comorocolya* n. gen.

(Figs 5-10; Tables 3-5)

TYPE SPECIES. — *Comorocolya ngazidja* n. sp., by present designation.

DISTRIBUTION. — Indian Ocean, Comoros: Grande Comore, Anjouan, Mohéli.

DIAGNOSIS. — This new genus has the unique and striking peculiarity of lacking front coxal process and having distinct mid dorsal subbasal spurs. In addition, *Comorocolya* n. gen. is characterised by: the prosternum unarmed (within Phisidini, only *Paraphesis* Karny, 1912, *Meiophis* Jin, 1992, and *Comorophis* n. gen. share this peculiarity); mid trochanter spine present; mid dorsal apical spur present; FW reduced, not reaching hind knees; male epiproct small, semicircular, not specialised; male cerci not cylindrical, specialised; male paraprocts reduced; females tergite VIII with hindward projecting folds on lateral lobes.

DESCRIPTION

Body size moderate (12-17 mm). Pro: anterior margin weakly concave; lateral lobes shallow; ventral margin rimmed; prosulcus distinct, mesosulcus distinct on lateral lobes. Prosternum unarmed; mesosternal processes forming inconspicuous bulge; metasternum unarmed. Thoracic opening of small to medium size. FW and HW reduced. Fore leg without distinct coxal spine. Tympanal area of T1

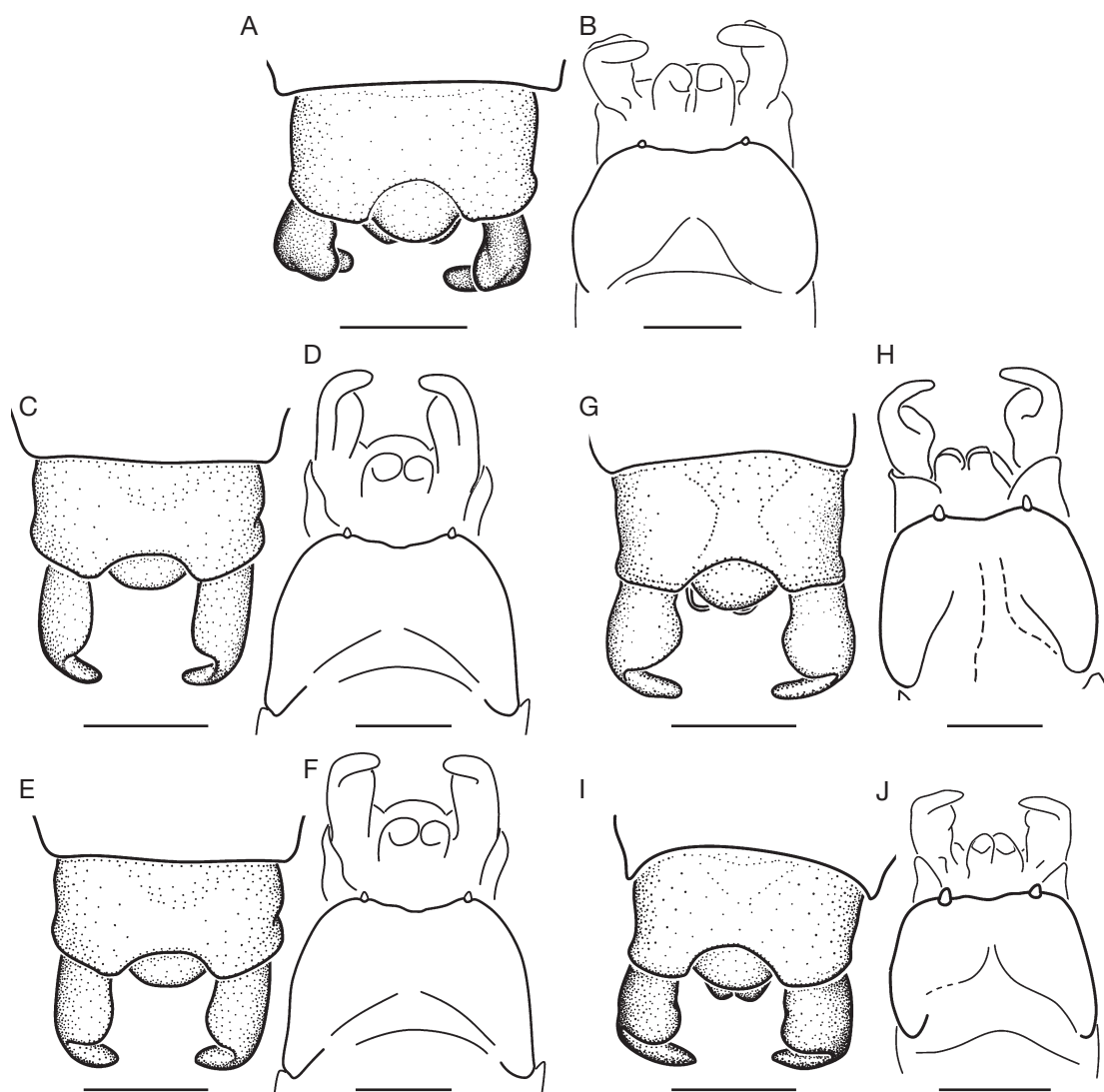


FIG. 5. — *Comorocolya* n. gen.: **A, C, E, G, I**, male last tergites and cerci, dorsal view (cerci are plane); **B, D, F, H, J**, male terminalia, ventral view (N.B.: the subgenital plate is plane, not the cerci); **A, B**, *C. ngazidja* n. gen., n. sp., holotype (MNHN-ENSIF2970); **C, D**, *C. ndzuwaniensis* n. gen., n. sp., holotype (MNHN-ENSIF3003); **E, F**, *C. ndzuwaniensis* n. gen., n. sp., paratype (MNHN-ENSIF2998); **G, H**, *C. mwaliensis* n. gen., n. sp., holotype (MNHN-ENSIF2968); **I, J**, *C. mwaliensis* n. gen., n. sp., paratype (MNHN-ENSIF2987). Scale bars: 1 mm.

inconspicuously inflated. Mid leg with a distinct trochanter spine. T2 with one dorsal subbasal spur; with dorsal apical spur. Ventral spur formulae: T1 7 (rarely 6)/7 (rarely 6) subapical spurs; F1 6/5 (in one specimen 6/6) spurs; T2 5-6/5-6 (proximal spur often minute) subapical spurs; F2 4/1-2 spurs. F3

with 5-11 ventral spines. T3 with: 9-15/7-10 ventral spines and 17-23/16-20 dorsal spines.

Males

Wings (Fig. 7): left mirror area circular or D-shaped. Terminalia (Fig. 5): epiproct small, semicircular,

not fused with last tergum. Paraprocts very small, hardly visible dorsally, apical end bent forward. Cerci: widened in basal half; curved and narrowed distally. SGP: broad; posterior margin sinuate, almost strait; with minute styli. Phallus without obvious sclerified plates on dorsal phallomeres. Epiphallus (Fig. 6) with single undivided rod, cephalic lobe widened or not (dorsal view); head ventrally with distinct tubercles (side view).

Females

SGP without emargination or with minute median notch. Tergite VIII with hindward projecting folds on lateral lobes (cf. remark below). O weakly gradually curved upwards with serrated margins apically.

Colour

No obvious lateral lines on Pro; males left mirror area with dark spot.

BIOACOUSTICS

Only the song of two out of three species is known (Fig. 10). Echeme-sequences are lasting tens of seconds. Echemes are usually disyllabic and irregularly repeated. Fundamental peaks in ultrasound range between 30–40 kHz.

REMARKS

As already pointed by Rentz (2001), the hind and ventral margins of females tergite VIII appear as a valuable often neglected character at both generic and specific levels.

In this genus, species are well defined by the male cerci but male epiphallus does not seem a very stable character.

Comorocolya ngazidja n. sp.
(Figs 5A, B; 6A, B; 7A, B; 8A;
9A, B; 10A; Table 3)

HOLOTYPE. — Comores [archipelago], Grande Comore [Island], Mvouni, chemin du Karthala, 1260 m alt., 11°43'12.5"S, 43°18'53.0"E, 27.IV.2010, S. Hugel, ♂ (MNHN-ENSIF2970; GdComore.1 2010 172).

ALLOTYPE. — Grande Comore [Island], La Grille, Sommet, 1020 m alt., 11°27'15"S, 43°20'43"E palmier, 1 m h,

28.IV.2010, S. Hugel, ♀ allotype (MNHN-ENSIF2969; GdComore.1 2010 137).

PARATYPES. — **Comores** [archipelago]. Same data as allotype, 1 ♂ (coll. SH; GdComore.1 2010 136). — Grande Comore [Island], RR125, S.O. Diouaro, forêt, 770 m alt., 07.I.2004, N. Cliquennois, 1 ♂ (coll. SH).

TYPE LOCALITY. — Indian Ocean, Comoros archipelago, Grande Comore.

ETYMOLOGY. — After Ngazidja, Grande Comore in Comorian.

DIAGNOSIS. — Males are characterised by terminalia (Fig. 5A, B). Cerci stout, basal half with a posterior lobe; distal part bent at right angle, with apex rounded.

DESCRIPTION

In addition to generic characters.

T1 with 7/7 subapical spurs; in female allotype one leg with only 6 inner subapical spurs.

T2 with 6/6 ventral spurs; in female allotype one leg with only 5 inner subapical spurs. Proximal most inner subapical spur reduced but not minute.

Male

Wings (Figs 7A, B; 8A): file with 106 lamellar teeth. Cerci stout, basal half with a posterior lobe; distal part bent at right angle, with apex rounded (Fig. 5A). Genitalia: cephalic lobe laterally flattened, pointing (dorsal view; Fig. 6A), in line with the neck (side view; Fig. 6B).

Female

SGP without distinct emargination (Fig. 9B). Hindward projecting folds of tergite VIII pointing, ventral lobe long (Fig. 9A).

Measurements

See Table 3.

BIOLOGY. — I observed this species in undergrowth of preserved areas in both Karthala and La Grille forests at around 1000 m alt.

BIOACOUSTICS (FIG. 10A)

One singing male has been recorded in captivity, at 5h00 AM, 30°C.

The call of *C. ngazidja* n. gen., n. sp. consists of long irregular echeme-sequences lasting 16 s–48 s



FIG. 6. — *Comorocolyla* n. gen., SEM pictures of epiphallus: **A, C, E, G, I**, dorsal view; **B, D, F, H, J**, side view; **A, B, C**, *C. ngazidja* n. gen., n. sp., holotype (MNHN-ENSIF2970); **C, D**, *C. ndzuwaniensis* n. gen., n. sp., holotype (MNHN-ENSIF3003); **E, F**, *C. ndzuwaniensis* n. gen., n. sp., paratype (MNHN-ENSIF2998); **G, H**, *C. mwaliensis* n. gen., n. sp., holotype (MNHN-ENSIF2968); **I, J**, *C. mwaliensis* n. gen., n. sp., paratype (MNHN-ENSIF2987). Scale bars: 1 mm.

and separated by breaks lasting tens of seconds. Echeme-sequences are made of echemes lasting 76.4–95.2 ms (average: 82.1 ms) and separated by 116.8 ms–4678.5 ms (average: 802.1 ms). Echemes are usually disyllabic (the first of a sequence is sometimes trisyllabic), each syllable lasting 13.6 ms–36.0 ms (average: 31.0 ms); the disyllabic echemes are separated by gaps lasting 7.6 ms–17.3 ms (average: 12.2 ms). Fundamental peaks at 40 kHz.

Comorocolyla ndzuwaniensis n. sp.

(Figs 5C–F; 6C–F; 7C–F;
8B, C; 9E, F; Table 4)

HOLOTYPE. — Comores [archipelago], Anjouan [Island], Dindi, montée au Nt[r]ingui, 1050 m alt., 12°13'13"S, 044°25'44"E, 22.IV.2010, S. Hugel, ♂ (MNHN-ENSIF3003; Anjouan.1 2010 054).

ALLOTYPE. — Same locality as holotype, but sur fougères, 16.VIII.2010, S. Hugel, ♀ allotype (MNHN-ENSIF3002; 2010 COM SH 064).

TABLE 3. — *Comorocolya ngazidja* n. gen., n. sp. Number of specimens measured : 3 ♂♂, 1 ♀. Abbreviations: see Material and methods.

	Body			Head			Pro			Tibia			Femora				FW	O		
	L	L	W	L	W	H	1	2	3	1	2	3L	3W	L	L	W				
♂ Average	16.3	1.7	2.4	3.4	2.7	1.5	8.1	6.7	13.6	7.0	5.1	11.2	1.8	3.7	–	–				
Min	16.3	1.4	2.3	3.3	2.5	1.4	8.0	6.7	13.3	6.7	4.9	11.1	1.7	3.6	–	–				
Max	16.4	2.0	2.5	3.5	2.9	1.5	8.3	6.7	13.9	7.2	5.3	11.4	1.9	3.8	–	–				
♀ Allotype	14.6	1.1	2.5	3.8	2.7	1.3	8.7	7.1	14.0	7.1	5.7	11.5	1.9	2.5	10.6	1.1				

PARATYPES. — **Comores [archipelago]**. Same data as holotype, 1 ♂ (coll. SH; Anjouan.1 2010 055), 2 ♀♀ (coll. SH; Anjouan.1 2010 056, 058); same locality, but 1250 m alt., 25.XI.2012, S. Hugel, 1 ♀ (MNHN-ENSIF3000; 2011COM 079); same locality, but 1243 m alt., 12°13'10.9"S, 44°25'42.6"E, 25.XI.2011, S. Hugel, 1 ♀ (MNHN-ENSIF2999; 2011COM 079). — Anjouan [Island], Dindi, descente du Nt[r]ingui, 1000 m alt., 12°13'S, 44°25'E, 23.IV.2010, S. Hugel, 1 ♀ (coll. SH; Anjouan.1 2010 076). — Anjouan [Island], Mout-samoudou, col de Patsi, montée au Djadjana, 850 m alt., 12°11'04"S, 44°27'38"E, 21.IV.2010, S. Hugel, 1 ♂ (MNHN-ENSIF2998; Anjouan.1 2010 098).

OTHER MATERIAL EXAMINED. — **Comores [archipelago]**, Anjouan [Island], Dindi, montée au Nt[r]ingui, 1200 m alt., 12°13'13"S, 044°25'44"E, 16.VIII.2010, S. Hugel, 1 juv. (MNHN-ENSIF2997; 2010 COM SH 062). — same locality data as holotype, ♀ juv. (coll. SH; Anjouan.1 2010 057); 16.VIII.2010, S. Hugel, ♀ juv. (MNHN-ENSIF3001; 2010 COM SH 063).

DISTRIBUTION. — Indian Ocean, Comoros archipelago, Anjouan Island.

ETYMOLOGY. — After Ndzuwani, Anjouan in Comorian.

DIAGNOSIS. — Males are characterised by terminalia (Fig. 5C, E). Cerci elongated, distal part moderately curved inwards.

DESCRIPTION

In addition to generic characters. T2 with 5-6/6 ventral spurs.

Male

Wings (Fig. 7C-F): file with 103-109 lamellar teeth (Fig. 8B, C). Cerci elongated for the genus, distal part moderately curved inwards, with apex broadly pointing (Fig. 5C, E). Epiphallus variable (Fig. 6C-F); cephalic lobe slightly enlarged (holotype, Fig. 6C), or not enlarged (Fig. 6E); with a distinct apical dip (holotype, Fig. 6C), or rounded (Fig. 6E).

Female

SGP with a distinct minute median emargination (Fig. 9F). Hindward projecting folds of tergite VIII wide and rounded, ventral lobe shallow (Fig. 9E).

Measurements

See Table 4.

BIOACOUSTICS

Unknown.

Comorocolya mwaliensis n. sp.

(Figs 5G-J; 6G-J; 7G-J; 8D, E; 9C, D; 10B; Table 5)

HOLOTYPE. — **Comores [archipelago]**, Mohéli [Island], Ouallah I, crête centrale, 727 m alt., 12°18'15.9"S, 43°41'10.3"E, 6.XII.2011, S. Hugel, ♂ (MNHN-ENSIF2968; 2011COM367).

ALLOTYPE. — Mohéli [Island], Ouallah, Bandalankoua, forêt de crête, 555 m alt., 12°18'48"S, 43°41'21"E, 01.V.2010, S. Hugel, ♀ allotype (MNHN-ENSIF2988; Mohéli.1 2010 082).

PARATYPES. — **Comores [archipelago]**. Same locality as allotype, but sur palmier, 25.VIII.2010, S. Hugel, 1 ♂ (MNHN-ENSIF2987; 2010 COM SH 281), 1 ♀ (coll. SU; 2010 COM SH 201). — Same data as holotype, 1 ♂ (MNHN-ENSIF2986; 2011COM366), 1 ♀ (MNHN-ENSIF2985; 2011COM368). — Mohéli [Island], Ouallah II, Mlima Baoura, 362 m alt., 12°19'11.0"S, 43°41'17.0"E, 4.XII.2011, S. Hugel, 1 ♂ (MNHN-ENSIF2984; 2011COM293), 1 ♀ (MNHN-ENSIF2983; 2011COM292). — Mohéli [Island], Ouallah I, crête descendante, 696 m alt., 12°18'08.9"S, 43°41'00.5"E, 5.XII.2011, S. Hugel, 1 ♂ (MNHN-ENSIF2982; 2011COM324); same locality, but 465 m alt., 12°18'15.8"S, 43°40'41.3"E, 5.XII.2011, S. Hugel, 1 ♀ (MNHN-ENSIF2981; 2011COM325).

OTHER MATERIAL EXAMINED. — **Comores [archipelago]**. Mohéli [Island], Ouallah, Bandalankoua, forêt de crête, 555 m alt., 12°18'48"S, 43°41'21"E, 01.V.2010, S. Hugel,

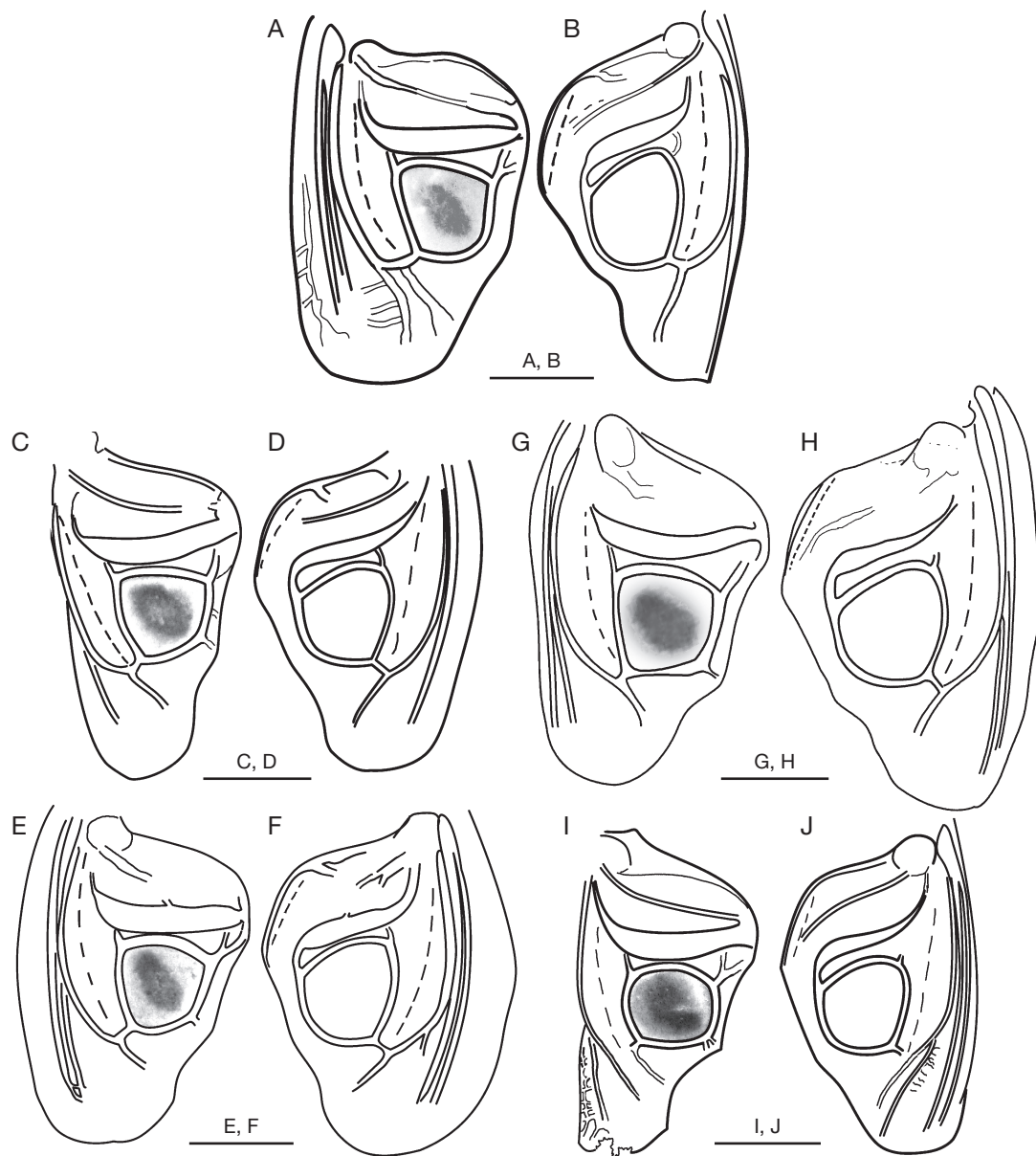


FIG. 7. — *Comorocolya* n. gen. forewings: **A, C, E, G, I**, left forewing; **B, D, F, H, J**, right forewing; **A, B**, *C. ngazidja* n. gen., n. sp., holotype (MNHN-ENSIF2970); **C, D**, *C. ndzuwaniensis* n. gen., n. sp., holotype (MNHN-ENSIF3003); **E, F**, *C. ndzuwaniensis* n. gen., n. sp., paratype (MNHN-ENSIF2998); **G, H**, *C. mwaliensis* n. gen., n. sp., holotype (MNHN-ENSIF2968); **I, J**, *C. mwaliensis* n. gen., n. sp., paratype (MNHN-ENSIF2987). Scale bars: 1 mm.

1 ♂ juv. (MNHN-ENSIF2980; Mohéli.1 2010 081), 1 ♀ juv. (MNHN-ENSIF2996; Mohéli.1 2010 083), 1 juv. (MNHN-ENSIF2995; Mohéli.1 2010 080); same data, but plante basse, sous bois, 1 ♀ juv. (MNHN-ENSIF2994; Mohéli.1 2010 079).

TYPE LOCALITY. — Indian Ocean, Comoros archipelago, Mohéli.

ETYMOLOGY. — After the type locality, Mwali (Mohéli in Comorian).

TABLE 4. — *Comorocolya ndzuwaniensis* n. gen., n. sp. Number of specimens measured : 3 ♂♂, 5 ♀♀. Abbreviations: see Material and methods.

	Body			Head			Pro			Tibia			Femora				FW	O	
	L	L	W	L	W	H	1	2	3	1	2	3 L	3 W	L	L	W			
♂ Average	14.6	1.4	2.4	3.5	2.7	1.4	8.3	6.8	13.0	6.9	5.0	11.0	1.5	3.6	–	–			
Min	13.3	1.2	2.3	3.4	2.6	1.1	7.7	6.5	12.5	6.5	4.8	10.8	1.4	3.4	–	–			
Max	15.9	1.7	2.6	3.5	2.7	1.7	8.8	7.4	13.7	7.2	5.3	11.5	1.7	3.8	–	–			
♀ Average	15.5	1.4	2.3	3.4	2.7	1.5	8.2	7.0	14.1	6.8	5.1	11.6	1.5	2.0	10.8	1.2			
Min	15.1	1.2	2.1	3.3	2.6	1.3	8.0	6.5	13.1	6.6	4.8	11.0	1.4	1.9	10.2	1.1			
Max	15.7	1.6	2.4	3.5	3.0	1.7	8.6	7.9	15.2	7.1	5.4	12.4	1.6	2.2	11.4	1.3			

BIOLOGY. — I collected this species in the undergrowth of a patch of preserved vegetation, on a ridge leading to the central crest of Mohéli island.

DIAGNOSIS. — Males are characterised by terminalia (Fig. 5G-J). Cerci stout, distal part bent, almost at right angle, with apex pointing. Epiphallus cephalic lobe usually not enlarged (Fig. 6G); one specimen with enlarged cephalic lobe (Fig. 6I).

DESCRIPTION

In addition to generic characters.

T1 with 7 (rarely 6)/7 subapical spurs. F1 with 6/5 spurs (6/6 in one male paratype). T2 with 5-6/5-6 ventral spurs. T2 dorsal subapical spur lacking in one side in female allotype.

Male

Wings: file with 96-106 lamellar teeth (Fig. 7D, E). Cerci stout, distal part bent, almost at right angle, with apex pointing (Fig. 5G, I). Epiphallus cephalic lobe usually not enlarged ($n = 4$, Fig. 6G, H), distinctly enlarged in one specimen (Fig. 6I).

Female

SGP with a very minute median emargination (Fig. 9D). Hindward projecting folds of tergite VIII broadly rounded, ventral lobe long and wide (Fig. 9C).

Measurements

See Table 5.

BIOACOUSTICS (FIG. 10B)

One singing male has been recorded in captivity, at 22h00, 27°C.

The call of *C. mwaliensis* n. gen., n. sp. consists of long irregular echeme-sequences lasting tens of seconds and separated by breaks lasting hundreds of seconds. Echeme-sequences are made of echemes lasting 60.9 ms-99.6 ms (average: 82.3 ms) and separated by 149.5 ms-13 287.3 ms (average: 1245.5 ms). Echemes are usually disyllabic, each syllable lasting 21.8 ms-38.3 ms (average: 25.6 ms); the disyllabic echemes are separated by gaps lasting 10.7 ms-28.1 ms (average: 13.5 ms). Fundamental peaks at 30.5 kHz.

Genus *Comorophis* n. gen. (Figs 11-14; Tables 6, 7)

TYPE SPECIES. — *Comorophis labati* n. sp., by present designation.

DISTRIBUTION. — Indian Ocean, Comoros archipelago, Grande Comore, Mayotte.

DIAGNOSIS. — Within Phisidini, *Comorophis* n. gen. is the only genus that displays both front coxal process and unarmed prosternum. This genus is also characterised by the combination of the following characters: mid trochanteral spine usually present; mid dorsal apical spur present; mid dorsal subbasal spur present; Pro lateral lobes relatively deep; male epiproct not specialised; male cerci cylindrical, without processes; male paraprocts reduced, without processes; male epiphallus with cephalic lobe bifurcated; female tergite VIII with hindward projecting folds on lateral lobes.

DESCRIPTION

Body size moderate (12-17 mm). Pro: anterior margin strait or weakly concave; lateral lobes relatively deep; ventral margin rimmed; prosulcus distinct, mesosulcus distinct on lateral lobes. Prosternum

unarmed; mesosternal processes forming inconspicuous bulge; metasternum unarmed. Thoracic opening of small size. FW and HW reduced but at least as long as Pro. Fore leg with distinct minute coxal spine. Tympanal area of T1 moderately inflated. Mid leg with a distinct trochanter spine (lacking in one specimen of one species). T2 with one dorsal subbasal spur; with dorsal apical spur. Ventral spur formulae: T1 7/7 (rarely 8) subapical spurs; F1 5/4 (rarely 5) spurs; T2 6/5-6 (proximal spur often minute) subapical spurs; F2 3 (rarely 2)/1-2 spurs. F3 with 5-9 ventral spines. T3 with: 11-14/7-11 ventral spines; 18-20/18-19 dorsal spines.

Males

Left mirror area D-shaped, higher than wide (Fig. 12). Terminalia (Fig. 11A, B, F-G). Epiproct small, semicircular, not fused with last tergum, with a median longitudinal depression. Paraprocts very small, visible dorsally, apical end more or less pointing. Cerci: widened at basis; regularly curved inwards. SGP: broad; posterior margin sinuate, with a very shallow emargination; with small distinct styli. Genitalia (Fig. 11D-E, I-J). Phallus with bilobate sclerified plates on dorsal phallomeres. Epiphallus with single undivided rod, cephalic lobe divided apically; head without distinct tubercles (side view).

Females

SGP hind margin weakly or distinctly projecting (Fig. 13A-D). Tergite VIII with hindward projecting folds on lateral lobes. O weakly and gradually curved upwards with serrated margins apically.

Colour

Green. Pro with distinct lateral yellow lines, with two small brown spots anterior to the median sulcus on the discus (side by side with the yellow lines); males left mirror area with dark spot.

Comorophis labati n. sp. (Figs 11A-E; 12A-C; 13A, B; 14A; Table 6)

HOLOTYPE. — Comores [archipelago], Grande Comore [Island], Mitsoudje, Niombadjou, jardin abandonné, 500 m

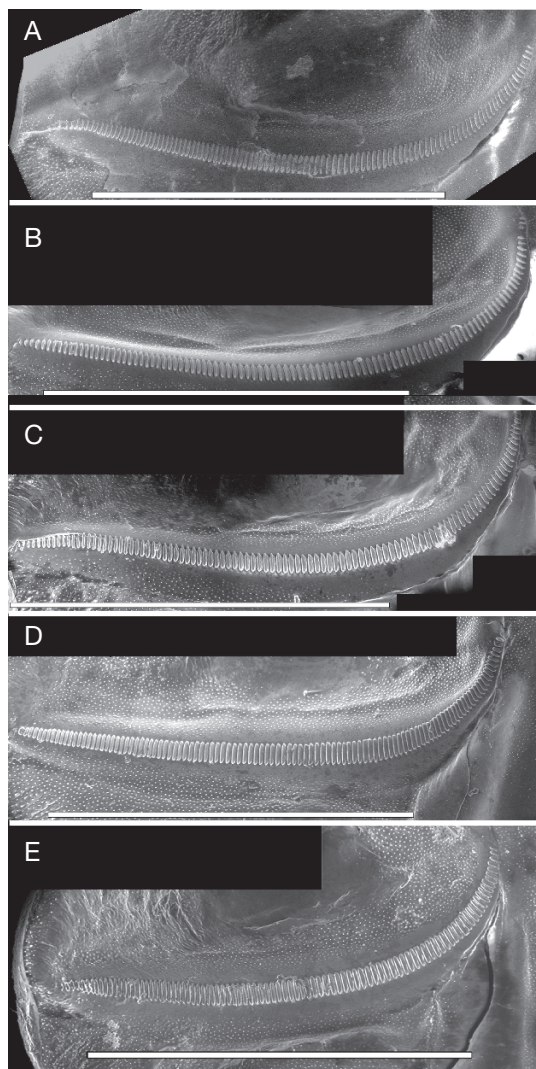


FIG. 8. — *Comorocolya* n. gen., SEM pictures of stridulatory file: A, *C. ngazidja* n. gen., n. sp., holotype (MNHN-ENSIF2970); B, *C. ndzuwaniensis* n. gen., n. sp., holotype (MNHN-ENSIF3003); C, *C. ndzuwaniensis* n. gen., n. sp., paratype (MNHN-ENSIF2998); D, *C. mwaliensis* n. gen., n. sp., holotype (MNHN-ENSIF2968); E, *C. mwaliensis* n. gen., n. sp., paratype (MNHN-ENSIF2987). Scale bars: 1 mm.

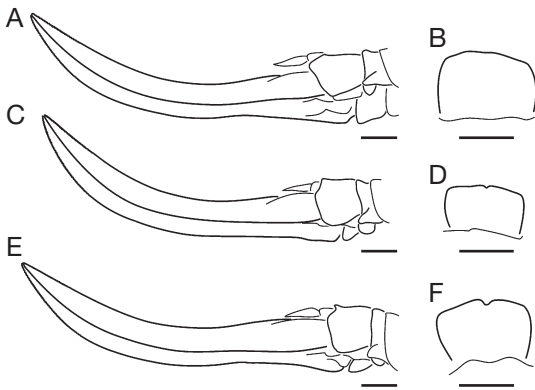
alt., 11°48'08"S, 43°18'28"E, sur goyavier, 20.VIII.2010, S. Hugel, ♂ (MNHN-ENSIF2993; 2010 COM SH 219).

ALLOTYPE. — Same data as holotype, but 18.VIII.2010, ♀ allotype (MNHN-ENSIF2992; 2010 COM SH 101).

PARATYPES. — Same data as allotype, 1 ♀ (coll. SH; 2010 COM SH 100).

TABLE 5. — *Comorocolya mwaliensis* n. gen., n. sp. Number of specimens measured : 5 ♂♂, 4 ♀♀. Abbreviations: see Material and methods.

	Body		Head		Pro			Tibia			Femora				FW		O	
	L		L	W	L	W	H	1	2	3	1	2	3 L	3 W	L		L	W
♂ Average	12.6		1.1	2.2	3.0	2.5	1.1	8.2	6.9	12.8	6.8	5.0	11.5	1.5	3.3	–	–	
Min	12.2		1.0	2.1	2.8	2.4	1.1	7.8	6.5	11.8	6.5	4.8	10.4	1.3	3.0	–	–	
Max	12.9		1.3	2.2	3.3	2.6	1.1	8.6	7.4	13.8	7.2	5.3	14.2	1.7	3.6	–	–	
♀ Average	13.3	1.3	2.2	2.9	2.5	1.3	7.9	6.8	14.6	6.8	5.5	12.2	1.6	2.0	9.8	1.1		
Min	12.2	1.1	2.0	2.1	2.3	1.2	7.5	6.4	13.0	6.2	5.3	11.5	1.4	1.7	9.2	1.0		
Max	14.6	1.5	2.4	3.2	2.7	1.4	8.4	7.3	15.6	7.3	5.7	12.6	1.9	2.4	10.2	1.2		

FIG. 9. — *Comorocolya* n. gen.: A, C, E, female terminalia, right side views; B, D, F, female subgenital plate; A, B, *C. ngazidja* n. gen., n. sp., specimen (coll. SH; GdComore.1 2010 136); C, D, *C. mwaliensis* n. gen., n. sp., allotype (MNHN-ENSIF2988); E, F, *C. ndzuwaniensis* n. sp., paratype (coll. SH; Anjouan.1 2010 076). Scale bars: 1 mm.

TYPE LOCALITY. — Indian Ocean, Comoros archipelago, Grande Comore.

ETYMOLOGY. — After Jean-Noël Labat, Professor at MNHN, suddenly deceased in 2011. Jean-Noël was strongly involved in the partnership between Comoros and MNHN scientists.

DIAGNOSIS. — Male brachypterous, wings distinctly longer than Pro (Fig. 12A, B; shorter in *Comorophis mayottensis* n. gen., n. sp.); rod of epiphallus narrowed before the cephalic lobe (dorsal view; Fig. 11D; not narrowed in *C. mayottensis* n. gen., n. sp.); female FW longer than Pro; female SGP posterior margin weakly projecting (Fig. 13B; distinctly projecting in *C. mayottensis* n. gen., n. sp.)

DESCRIPTION

In addition to generic characters.

T1 with 7/7 subapical spurs; F1 with 5/4 (5 in one female allotype side) spurs; mid trochanteral

spine present in male holotype and female allotype, not in female paratype; T2 with 6/5-6 subapical spurs; F2 with 3/2 spurs.

Male

Wings (Fig. 12A-C): distinctly longer than Pro. File with 117 lamellar teeth (Fig. 12C). Epiproct small, fitting in a semicircular notch of the last tergum, with a distinct longitudinal depression (Fig. 11A). Paraprocts small, hardly visible in dorsal view (Fig. 11A, B). Cerci with a wide basis, reduced right after the basis, cylindrical, regularly bent inwards (Fig. 11A-C). SGP posterior margin sinuate, almost strait (Fig. 11B). Genitalia (Fig. 11D, E): epiphallus rod short, weakly bent downwards apically (side view; Fig. 11E); rod widened in the middle and narrowed before the cephalic lobe (dorsal view; Fig. 11D); cephalic lobe shortly divided apically, forming two short diverging spines (in dorsal view; Fig. 11D).

Female

FW longer than Pro. SGP posterior margin weakly projecting, with a minute median emargination (Fig. 13B).

Measurements

See Table 6.

BIOLOGY. — I observed this species in poorly preserved gardened forest, mostly on the invasive plant species *Psidium cattleianum* around the abandoned village of Nioumbadjou.

BIOACOUSTICS (FIG. 14A)

One singing male has been recorded in captivity, at 5h00 AM, 24°C.

The call of *C. labati* n. gen., n. sp. consists of long irregular echeme-sequences lasting 5 s-10 s

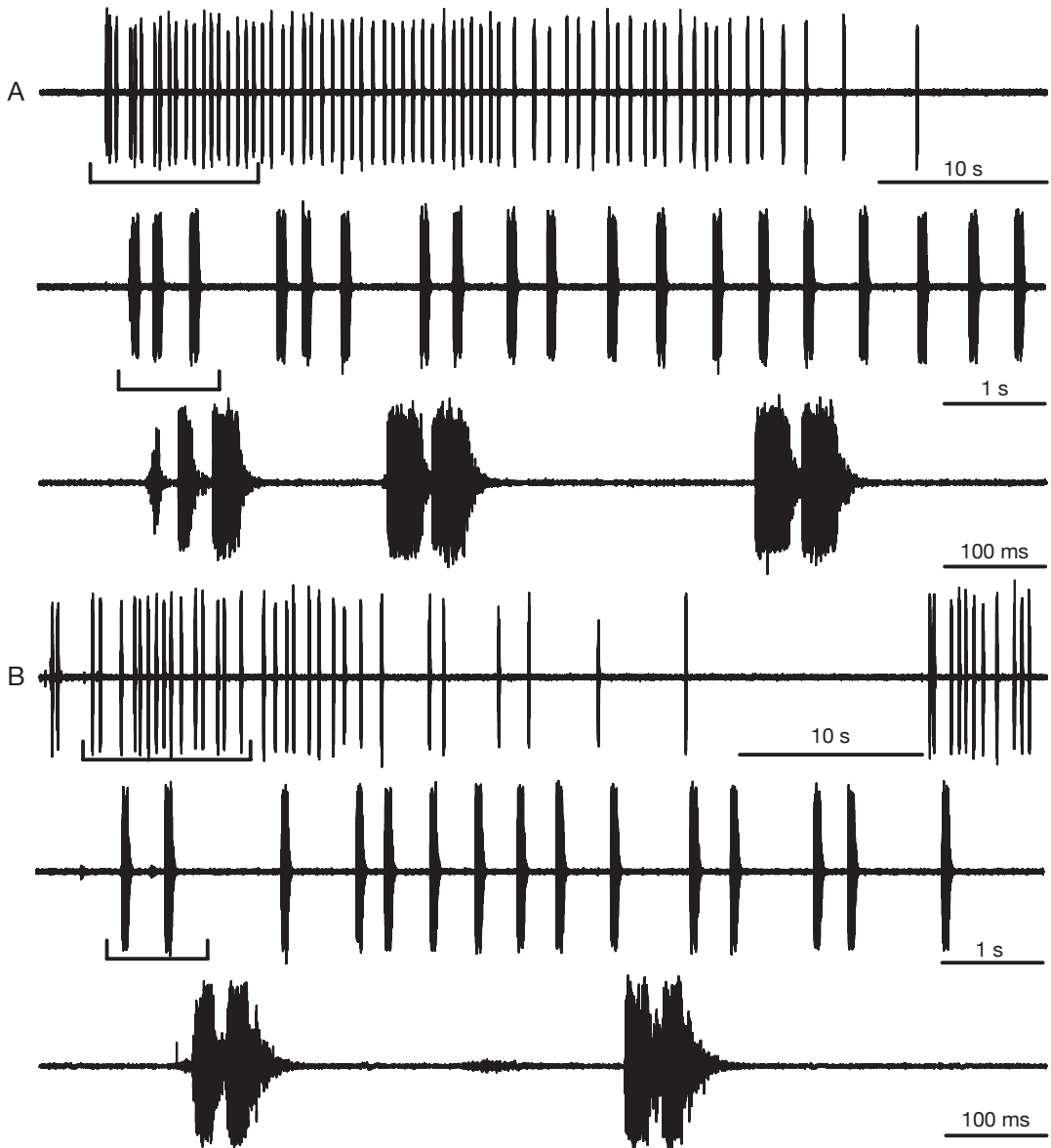


FIG. 10. — *Comorocolya* n. gen., calling song, in studio with a bat detector: **A**, *C. ngazidja* n. gen., n. sp., holotype (MNHN-ENSIF2970), 5h00 AM, 30°C; **B**, *C. mwaliensis* n. gen., n. sp., paratype (MNHN-ENSIF2987), 5h00 AM, 24°C.

and separated by breaks lasting tens of seconds. Echeme-sequences are made of sequences of regularly repeated syllables separated by breaks lasting 45 ms–1413 ms (average: 145 ms). Syllables are lasting 10.5 ms–18.9 ms (average: 14.3 ms) and are separated by gaps lasting 14.2 ms–25.2 ms (average: 19.2 ms). Fundamental peaks at 32 kHz.

Comorophisis mayottensis n. sp.

(Figs 11F–J; 12D–F;
13C, D; 14B; Table 7)

HOLOTYPE. — Comores [archipelago], Mayotte [Island], Bénara, faré, 341 m alt., 12°52'43"S, 45°09'16"E, grandes fougères au sol en sous-bois, 1 m h, 30.VIII.2010, S. Hugel, ♂ (MNHN-ENSIF3015; 2010 COM SH 258).

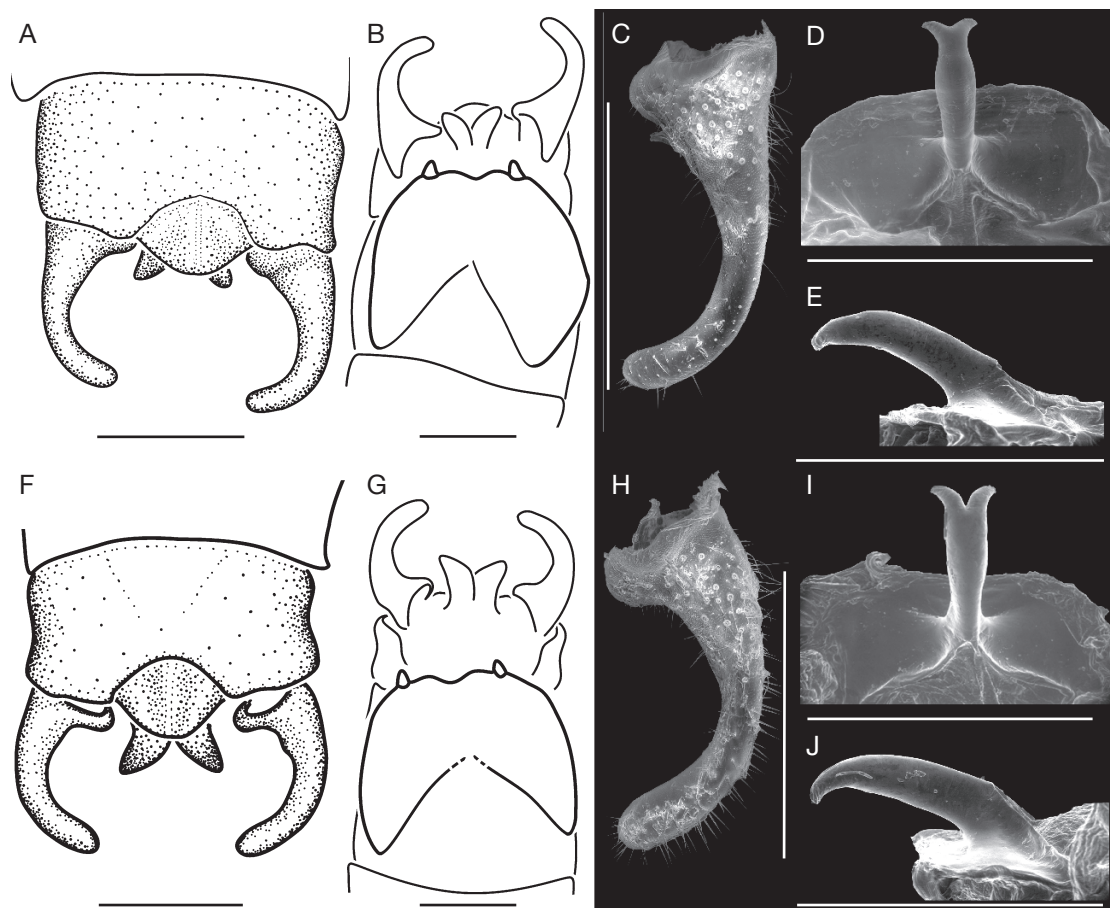


FIG. 11. — *Comorophis* n. gen.: **A-E**, *C. labati* n. gen., n. sp., holotype (MNHN-ENSIF2993); **F-J**, *C. mayottensis* n. gen., n. sp., holotype (MNHN-ENSIF3015); **A, F**, male terminalia in dorsal view; **B, G**, male terminalia in ventral view; **C, H**, male right cercus, top view; **D, I**, SEM pictures of epiphallus in dorsal view; **E, J**, SEM pictures of epiphallus in side view. Scale bars: 1 mm.

ALLOTYPE. — Mayotte [Island], Sohoa, Choungui, 2 m h, 06.V.2010, S. Hugel, ♀ allotype (MNHN-ENSIF3014; Mayotte.1 2010 126).

PARATYPES. — **Comores [archipelago]**. Mayotte [Island], Bénara, sommet, 664 m alt., 12°53'02"S, 45°09'43"E, 1 m h, 04.V.2010, S. Hugel, ♂ (coll. SH; Mayotte.1 2010 009), 1 ♀ (coll. SH; Mayotte.1 2010 051). — Same data as holotype, 2 ♀ (MNHN-ENSIF3013, 3012; 2010 COM SH 259, 260). — Mayotte [Island], Mlima Choungui, prox. sommet, 538 m alt., 12°57'26.2"S, 45°08'02.5"E, 9.XII.2011, S. Hugel, 4 ♂♂ (MNHN-ENSIF3011, 3010, 3009, 3008; 2011COM436-438, 447), 1 ♀ (MNHN-ENSIF3007; 2011COM439).

TYPE LOCALITY. — Indian Ocean, Comoros archipelago, Mayotte.

ETYMOLOGY. — After the type locality.

DIAGNOSIS. — Male micropterous, FW at most as long as Pro (Fig. 12D, E; longer in *Comorophis labati* n. gen., n. sp.); rod of epiphallus not narrowed before the cephalic lobe (dorsal view; Fig. 11I; narrowed in *Comorophis labati* n. gen., n. sp.); female FW at most as long as Pro; female SGP posterior margin distinctly projecting (Fig. 13D; weakly projecting in *Comorophis labati* n. gen., n. sp.).

DESCRIPTION

In addition to generic characters.

T1 with 7/7 (rarely 8) subapical spurs; F1 with 5/4 spurs; T2 with 6/5-6 subapical spurs; F2 with 1-3/1-2 spurs.

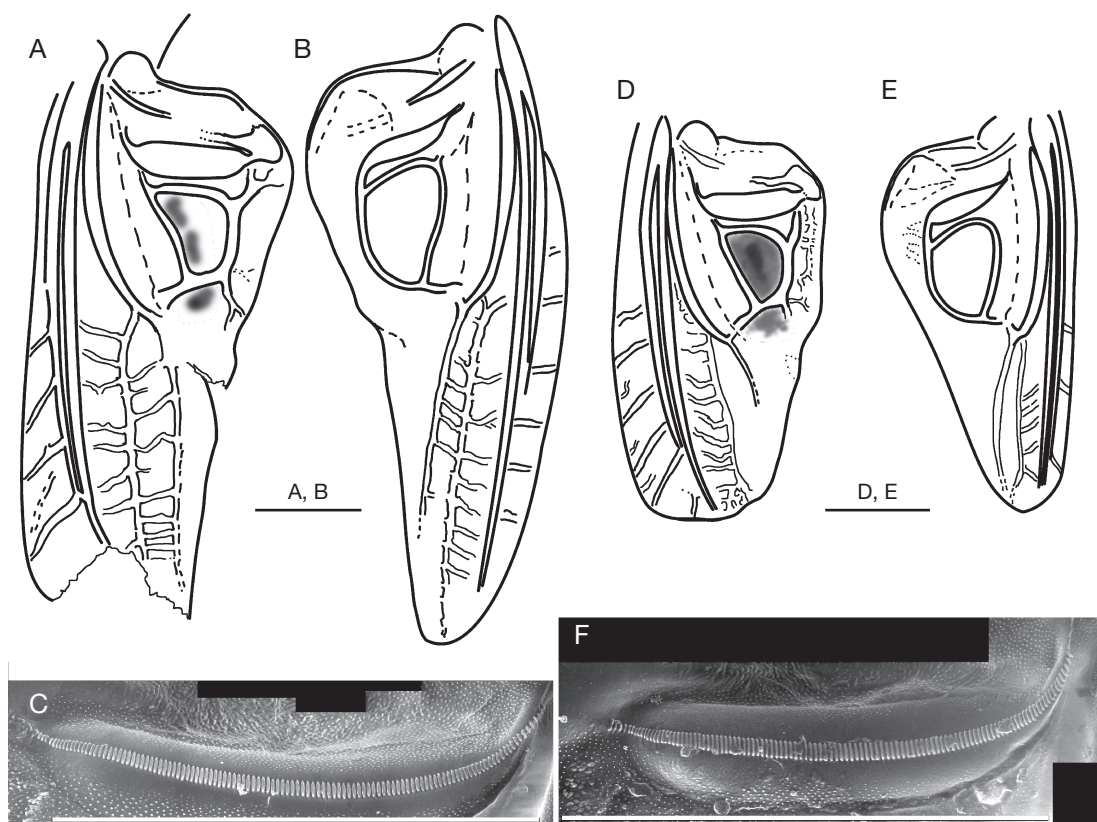


FIG. 12. — *Comorophis* n. gen.: **A-C**, *C. labati* n. gen., n. sp., holotype (MNHN-ENSIF2993); **D-F**, *C. mayottensis* n. gen., n. sp., holotype (MNHN-ENSIF3015); **A, D**, male left FW basis; **B, E**, male right FW basis; **C, F**, SEM pictures of stridulatory files. Scale bars: 1 mm.

Male

Wings (Fig. 12D-F): as long as Pro. File with 110 lamellar teeth (Fig. 12F). Terminalia (Fig. 11F-J): epiproct small, fitting in a semicircular notch of the last tergum, with a longitudinal depression (Fig. 11F). Paraprocts small, distinct in dorsal view (Fig. 11F, G). Cerci with a wide basis, reduced right after the basis, cylindrical, regularly bent inwards (Fig. 11F-H). SGP posterior margin sinuate, almost straight (Fig. 11G). Genitalia (Fig. 11I, J): epiphallus rod short, weakly bent downwards apically (side view; Fig. 11J); rod widened toward the apex (dorsal view; Fig. 11I); cephalic lobe divided apically, forming two diverging spines (in dorsal view; Fig. 11I).

Female

FW at most as long as Pro. SGP posterior margin distinctly projecting, with a distinct median notch (Fig. 13D).

Measurements

See Table 7.

BIOLOGY. — I observed this species in well-preserved forest, near the ground, often on fern species. The ultrasound ambient noise is dominated by this species near the Fare in Bénara and near the top of Mlima Choungui.

BIOACOUSTICS (FIG. 14B)

One singing male has been recorded in the field, at 2h00 AM, 26°C.

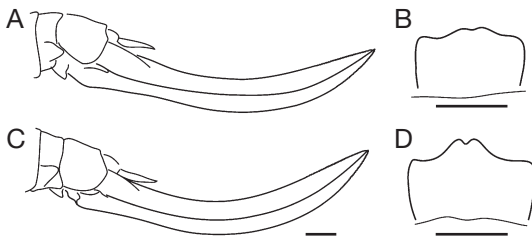
The call of *C. mayottensis* n. gen., n. sp. consists of short echeme-sequences lasting 0.7 s-1.3 s and

TABLE 6. — *Comorophis labati* n. gen., n. sp. Number of specimens measured : 1 ♂, 2 ♀♀. Abbreviations: see Material and methods.

	Body	Head		Pro			Tibia			Femora				FW	O	
	L	L	W	L	W	H	1	2	3	1	2	3 L	3 W	L	L	W
♂ Holotype	14.5	1.5	2.2	3.4	2.8	1.5	7.3	6.4	12.6	6.2	5.1	10.9	1.6	5.6	—	—
♀ Average	13.3	1.6	2.3	3.4	2.7	2.3	8.0	6.8	14.3	6.7	5.3	11.8	1.8	5.2	10.4	1.1
Min	12.2	1.6	2.3	3.4	2.6	1.2	8.0	6.7	14.0	6.7	5.2	11.6	1.8	5.1	10.2	1.0
Max	14.3	1.6	2.3	3.4	2.9	3.3	8.1	6.9	14.5	6.8	5.4	12.1	1.9	5.3	10.6	1.1

TABLE 7. — *Comorophis mayottensis* n. gen., n. sp. Number of specimens measured : 6 ♂♂, 5 ♀♀. Abbreviations: see Material and methods.

	Body	Head		Pro			Tibia			Femora				FW	O	
	L	L	W	L	W	H	1	2	3	1	2	3 L	3 W	L	L	W
♂ Average	13.4	1.5	2.2	3.4	2.6	1.6	8.2	6.7	12.6	7.0	5.4	11.9	1.6	4.1	—	—
Min	10.2	1.3	2.1	3.2	2.4	1.4	8.0	6.4	6.8	6.7	4.9	11.2	1.4	3.5	—	—
Max	15.4	1.8	2.3	3.6	2.7	1.7	8.4	7.0	14.5	7.4	5.8	12.9	1.7	4.4	—	—
♀ Average	15.9	1.7	2.7	3.7	2.9	1.8	9.1	7.7	15.9	7.8	6.4	13.5	2.0	3.7	10.2	1.2
Min	14.7	1.4	2.5	3.4	2.6	1.7	9.0	7.4	15.6	7.2	6.3	13.1	1.7	3.5	10.2	1.1
Max	17.1	2.1	2.9	4.0	3.1	1.9	9.3	8.1	16.2	8.4	6.5	13.9	2.2	4.1	10.3	1.3

FIG. 13. — *Comorophis* n. gen.: **A, C**, female terminalia, left side views; **B, D**, female subgenital plate; **A, B, C**, *labati* n. gen., n. sp., allotype (MNHN-ENSIF2992); **C, D**, *mayottensis* n. gen., n. sp., paratype (MNHN-ENSIF3013). Scale bars: 1 mm.

separated by breaks lasting tens of seconds (20–60 s). Echeme-sequences are made of 3–6 echemes. Echemes are lasting 70 ms–196 ms (average: 131) and are separated by breaks lasting 98–525 ms (average: 317 ms). Within echemes, 3–8 syllables are regularly repeated. Syllables are lasting 7.3 ms–13.4 ms (average: 11.4 ms) and are separated by gaps lasting 14.1 ms–19.3 ms (average: 16.4 ms). Fundamental peaks above 28 kHz.

Genus *Malagasyphisis* n. gen. (Figs 15, 16; Table 8)

TYPE SPECIES. — *Malagasyphisis maromizaha* n. sp., by present designation.

DISTRIBUTION. — Indian Ocean, Madagascar.

ETYMOLOGY. — After the type locality.

DIAGNOSIS. — Pro with shallow lateral lobes; prosternum armed with moderate processes; thoracic auditory opening large; front coxal process present, very minute; mid trochanteral spine present; T2 dorsal apical spur present; T2 with 2–3 mid dorsal subbasal spurs; male epiproct not specialised, male paraprocts small, not visible from above; male SGP with distinct styli; male FW reduced, slightly longer than Pro; male epiphallus with two widely separated rods, protruding from each side of the basal lobe.

DESCRIPTION

Body size moderate (12 mm). Pro: anterior margin weakly concave; lateral lobes shallow; ventral margin rimmed; prosulcus distinct, mesosulcus distinct on lateral lobes; prosternum armed with moderate processes, mesosternum armed with short bulges, metasternum unarmed. Thoracic opening large. FW reduced, slightly longer than Pro. Fore leg with minute coxal spine. Tympanal area of T1 weakly inflated. Mid leg with a distinct trochanter spine. T2 with 2–3 dorsal subbasal spurs on both sides; with dorsal apical spur.

Males

Wings (Fig. 16): left mirror area D-shaped, slightly higher than wide. Terminalia (Fig. 15): epiproct small, not fused with last tergum, with a shallow

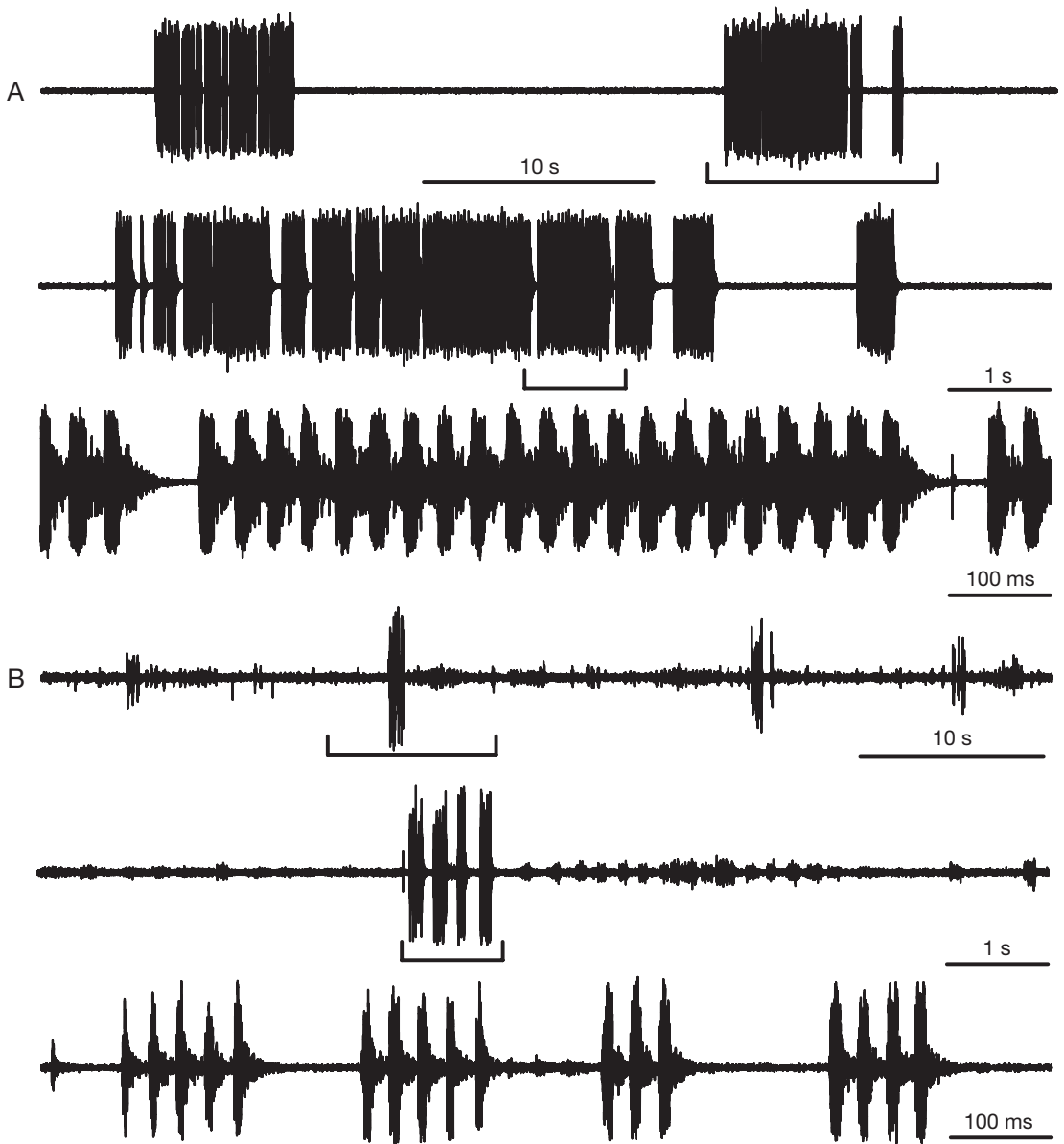


FIG. 14. — *Comorocolya* n. gen. calling song: **A**, *C. labati* n. gen., n. sp., holotype (MNHN-ENSIF2993), 1h00 AM, 25°C, in studio; **B**, *C. mayottensis* n. gen., n. sp., holotype (MNHN-ENSIF3015), 2h00 AM, 26°C; in natura, many other specimens are singing near the recorded one. All records with a bat detector.

median depression. Paraprocts not visible dorsally. Cerci: long, curved inwards, broadly cylindrical, with a process on the middle. SGP: broad; posterior margin with distinct styli. Genitalia (Fig. 15D, E): phallus with distinct sclerified plates on dorsal

phallomeres. Epiphallus with two widely separated rods, protruding from each side of the basal lobe.

Females

Unknown.

TABLE 8. — *Malagasyphisis maromizaha* n. gen., n. sp. Abbreviations: see Material and methods.

	Body		Head		Pro			Tibia			Femora				FW
	L		L	W	L	W	H	1	2	3	1	2	3 L	3 W	L
♂ Holotype	11.8		1.2	2.1	3.0	2.5	1.3	8.8	7.2	14.3	7.6	5.7	11.7	1.8	3.7

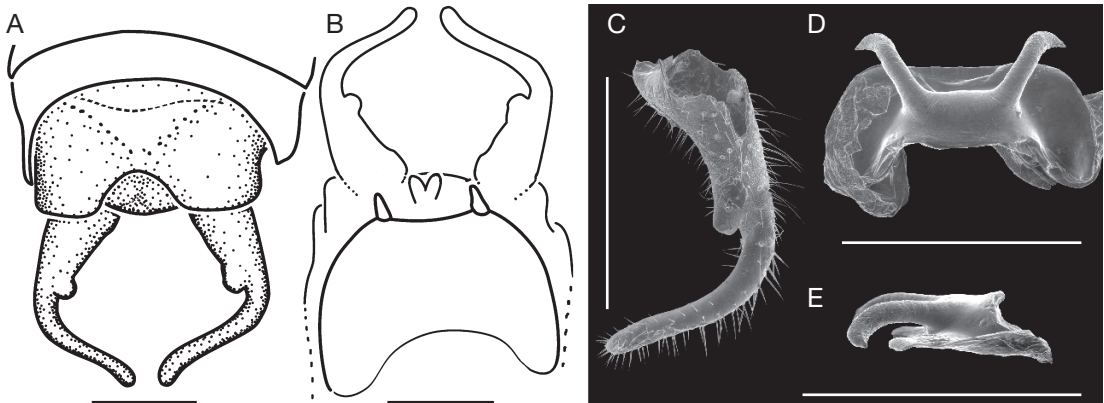


FIG. 15. — *Malagasyphisis maromizaha* n. gen., n. sp.: holotype (MNHN-ENSIF3006); **A**, male terminalia in dorsal view; **B** male terminalia in ventral view; **C**, SEM picture of male right cercus, top view; **D**, SEM pictures of epiphallus in dorsal view; **E**, SEM pictures of epiphallus in side view. Scale bars: 1 mm.

Colour

Green; males left FW with dark spot on the mirror area and more distally.

BIOACOUSTICS

Unknown.

REMARKS

Within Phisidini, *Malagasyphisis* n. gen. is close to *Decolya* Bolívar, 1900 but differs by: thoracic auditory opening large (small to moderate in *Decolya* except in *D. kelletti* (Henry, 1922)); T2 with 2-3 dorsal sub-basal spurs (characteristic only partially shared with *Kevanophisis* Jin, 1992, having 1-2 mid dorsal subapical spurs); male epiphallus with two widely separated rods, protruding from each side of the basal lobe (characteristic only shared with *Rodriguestiophisis* Hügel, 2010).

Malagasyphisis maromizaha n. sp. (Figs 15; 16; Table 8)

HOLOTYPE. — Madagascar, Anevoka, Maromizaha, 1000 m alt., 18°58'S, 48°27'E, 1,5 m h, 24.I.2011, S. Hügel, ♂ (MNHN-ENSIF3006; 2011 MADA SH 591).

TYPE LOCALITY. — Indian Ocean, Madagascar, Maromizaha.

ETYMOLOGY. — Named after the type locality, Maromizaha.

DIAGNOSIS. — Ventral spur formulae: T1 7/7 subapical spurs; F1 5/4 spurs; T2 6/6 (proximal subapical spur minute) subapical spurs; F2 3/3 spurs. T2 with 2 (on one leg)-3 (on the other leg) dorsal subapical spurs. Cerci with a wide basis, cylindrical, regularly bent inwards; with an inner lobe on the middle (Fig. 15C). Epiphallus with two widely separated rods, protruding from each side of the basal lobe, apex of the rods pointing sideways (Fig. 15D, E).

BIOLOGY. — I observed this species in the undergrowth of the core of Maromizaha nature reserve.

DESCRIPTION

In addition to generic characters.

Ventral spur formulae: T1 7/7 subapical spurs; F1 5/4 spurs; T2 6/6 (proximal subapical spur minute) subapical spurs; F2 3/3 spurs. T2 with 2 (on one leg)-3 (on the other leg) dorsal subapical spurs. F3 with 12 ventral spines. T3 with: 12/9 ventral spines; 17/17 dorsal spines.

Male

Wings (Fig. 16): distinctly longer than Pro. File with 131 lamellar teeth (Fig. 16C). Terminalia (Fig. 15): epiproct small, fitting in a semicircular notch of the last tergum, with a small median depression (Fig. 15A). Paraprocts small, not visible in dorsal view (Fig. 15A, B). Cerci with a wide basis, cylindrical, regularly bent inwards; with an inner lobe on the middle (Fig. 15C). SGP posterior margin strait (Fig. 15B). Genitalia (Fig. 15D, E): epiphallus with two widely separated rods, protruding from each side of the basal lobe, apex of the rods pointing sideways.

Female

Unknown.

Measurements

See Table 8.

BIOACOUSTICS

Unknown.

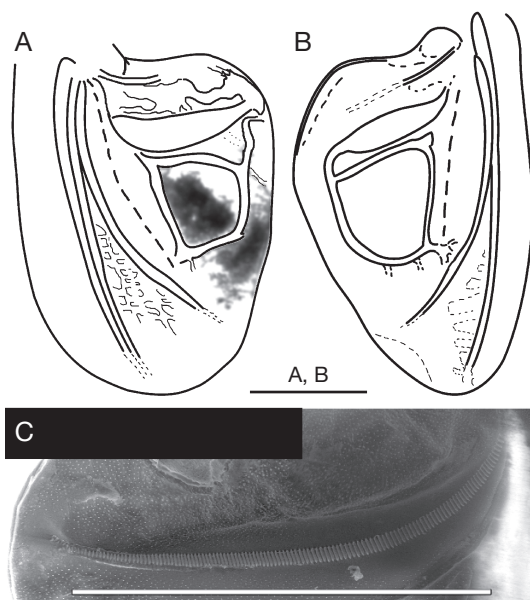


FIG. 16. — *Malagasyphisis maromizaha* n. gen., n. sp.: holotype (MNHN-ENSIF3006); **A**, male left FW; **B**, male right FW; **C**, SEM pictures of stridulatory file. Scale bars: 1 mm.

KEY OF PHISIDINI JIN, 1987 GENERA FROM SOUTH WESTERN INDIAN OCEAN ISLANDS
AND PHISIDINI SPECIES FROM COMOROS ARCHIPELAGO

1. Prosternum unarmed; mid dorsal apical spur present; one mid dorsal subbasal spur; Comoros archipelago 2
- Prosternum armed; mid dorsal apical spur present or absent; 0, 1, 2 or 3 mid dorsal subbasal spurs 3
2. Front coxal process present, minute; male cerci cylindrical; cephalic lobe of epiphallus bifurcated apically (Fig. 11D, I) *Comorophisis* n. gen. 8
- Front coxal process absent; male cerci more complex; cephalic lobe of epiphallus simple (Fig. 6A, C, E, G, I) *Comorocolya* n. gen. 9
3. Mid trochanteral spine absent; male epiproct elongated; male paraprocts elongated, specialised *Phisis* Stål, 1861
- Mid trochanteral spine present; male epiproct reduced; male paraprocts reduced or elongated and specialised 4
4. FWs long, covering the abdomen; mid dorsal apical spur absent 5
- FWs reduced, not covering the abdomen; mid dorsal apical spur typically present 7
5. Mid dorsal subbasal spur absent; male cerci with a distinct process (Fig. 1C, G); granitic Seychelles *Seselpheisis* n. gen.
- Mid dorsal subbasal spur present; male cerci without process; Mascarene archipelago 6

6. Pro with shallow lateral lobe; epiphallus with widely separated rods; Rodrigues *Rodriguesiophis* Hugel, 2010
- Pro with deep lateral lobe; epiphallus with one single rod; Mascarene archipelago *Brachyphis* Chopard, 1957
7. T2 with 2-3 dorsal subbasal spurs; epiphallus with widely separated rods (Fig. 15D); Madagascar *Malagasyphis* n. gen.
- T2 with one dorsal subbasal spur; epiphallus with one single rod and undivided cephalic lobe; Mascarene archipelago *Paradecolya* Jin, 1992
8. Brachypterous, wings distinctly longer than Pro (Fig. 12A, B); epiphallus rod narrowed before the cephalic lobe (dorsal view; Fig. 11D); female SGP posterior margin weakly projecting (Fig. 13B) *Comorophis labati* n. gen., n. sp.
- Micropterous, wings at most as long as Pro (Fig. 12D, E); epiphallus rod not narrowed before the cephalic lobe (dorsal view; Fig. 11I); female SGP posterior margin distinctly projecting (Fig. 13D) *Comorophis mayottensis* n. gen., n. sp.
9. Cerci elongated, distal part moderately curved inwards (dorsal view; Fig. 5C, E); Anjouan *Comorocolya ndzuwaniensis* n. gen., n. sp.
- Cerci stout, distal part bent (dorsal view; Fig. 5A, G, I) 10
10. Cerci stout, distal part bent, almost at right angle, with apex pointing (Fig. 5G, I); Mohéli *Comorocolya mwaliensis* n. gen., n. sp.
- Cerci stout, basal half with a posterior lobe; distal part bent at right angle, with apex rounded (side view; Fig. 5C, E); Grande Comore *Comorocolya ngazidja* n. gen., n. sp.

DISCUSSION

PHISIDINI FROM SWIO ISLANDS

About 130 Phisidini species have been described, mostly from the Indo-Pacific area. Until recently, few species were known from SWIO. Targeted sampling of Phisidini allowed to record this clade from islands (Mauritius, Praslin, Madagascar) and archipelagos (Comoros) where it was unknown, and to rediscover species that were known by only one single ancient specimen (*Rodriguesiophis spinifera* (Butler, 1876) in Rodrigues; *Brachyphis viettei* in la Réunion). Phisidini from SWIO islands belong to several well distinct genera, and seem to result from distinct colonisation events, at least on volcanic islands. This point will be addressed elsewhere (Warren, Strasberg & Hugel in prep.).

CONSERVATION STATUS OF PHISIDINI SPECIES IN SWIO ISLANDS

Only one SWIO Phisidini species has a wide distribution: *Phis peregrina*, recorded in Seychelles. Importantly, most SWIO Phisidini are single island

endemic. Only *Seselphis visenda* n. comb. occurs on both Mahé and Silhouette, distant by 20 km.

Most of SWIO Phisidini are occurring in and/or around native forest areas. Only *Comorophis labati* n. gen., n. sp. has been found in gardens in Grande Comore, and *Paradecolya inexpectata* (Chopard, 1957) (misspelled “*inexpectata*” in Hugel 2010b) from la Réunion spills over preserved spots and can be observed in neighboring anthropised areas, particularly on the highest range of its distribution. Conservation of these insects appears therefore to depend on the preservation of native habitats, and the conservation status of these species might be assessed as a function of the surface of preserved areas. Importantly, some endemic SWIO Orthoptera species can survive at very low density in forested areas invaded by exotic plant species (Hugel 2012a) and strongly benefit from restoration schemes (Hugel 2012b).

BIOACOUSTICS

Only few Phisidini calls have been published (Rentz 2001; Hugel 2009b, 2010b). The first

harmonic of the song of SWIO Phisidini species peaks between 17.5 kHz (*Brachyphisis natecantor* Hugel, 2010) and 40 kHz (*Comorocolya ngazidja* n. gen., n. sp.). The number of teeth on the stridulatory file displays a strong variation, ranging from 45 (*Paradecolya expectata* Hugel, 2010) to 135 (*Malagasyphisis maromizaha* n. gen., n. sp.). No clear relation between the number of teeth and the song frequency has been detected, suggesting that other parameters are controlling the song frequency. Nevertheless, recordings have been performed under non standardised conditions (studio vs field, various temperatures) making difficult to conclude a lack of file number/first harmonic frequency relationship.

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